Final Examinations

on Geometry
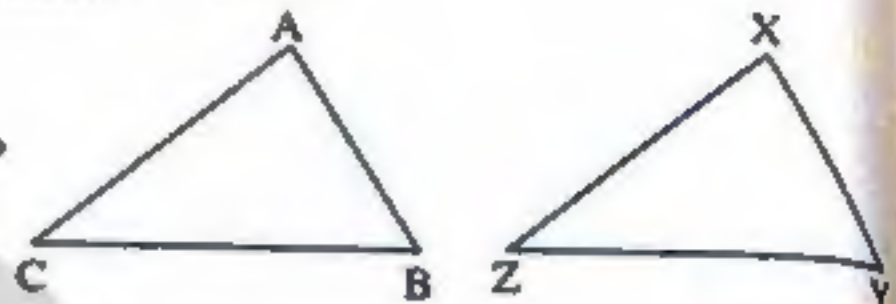
Model Examinations of the School Book

on Geometry
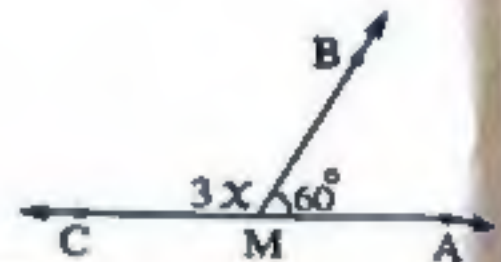
Model 1

Answer the following questions :

1 Complete each of the following :

1 The perpendicular bisector of a line segment is called ....

2 In the opposite figure :

If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) + m(\angle B) = 140°$

, then $m(\angle Z)$ = ...°

3 If $m(\angle B) = 105°$, then $m(\text{reflex} \angle B)$ = ...°
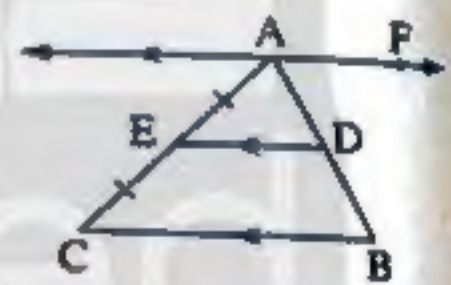
4 In the opposite figure :

If $\overrightarrow{MB} \cap \overrightarrow{AC} = \{M\}$, $m(\angle AMB) = 60°$

, then the value of X equals ....°

5 Two right-angled triangles are congruent if ....

2 Choose the correct answer from those given :

1 If $\angle X \equiv \angle Y$, $\angle X$ and $\angle Y$ are supplementary angles , then $m(\angle X)$ = ...

(a) 45° (b) 90° (c) 135° (d) 180°

2 In the opposite figure :

If $\overleftrightarrow{AF} /\!/ \overrightarrow{DE} /\!/ \overrightarrow{BC}$, $AE = EC$

, then $AD : AB$ = ...

(a) 2 : 1 (b) 3 : 2 (c) 1 : 3 (d) 1 : 2

3 The two straight lines that are perpendicular to a third one are ....

(a) perpendicular. (b) intersecting.

(c) coincident. (d) parallel.

4 The measure of each of the two equal complementary angles equals ....

(a) 180° (b) 45° (c) 360° (d) 90°

5 If two straight lines intersect , then each two .... angles have the same measure.

(a) vertically opposite (b) adjacent

(c) alternate (d) corresponding

6 If $\triangle ABC \equiv \triangle LMN$, then $m(\angle ACB) = m(\angle ....)$
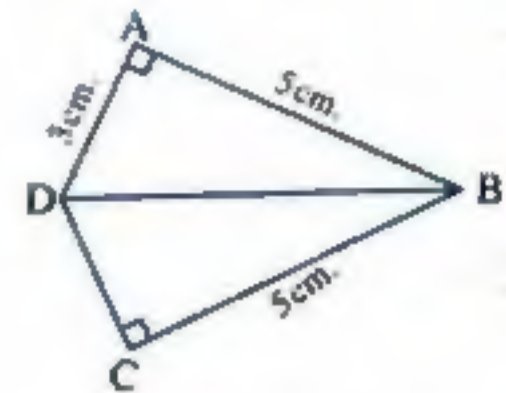
(a) LMN (b) MLN (c) LNM (d) NLM

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3 **(a)** In the opposite figure :

m (∠ BAD) = m (∠ BCD) = 90°

, AB = CB = 5 cm. , AD = 3 cm.

Mention the conditions for △ ABD , △ CBD to be congruent

, then find : The length of $\overline{CD}$

[b] In the opposite figure :
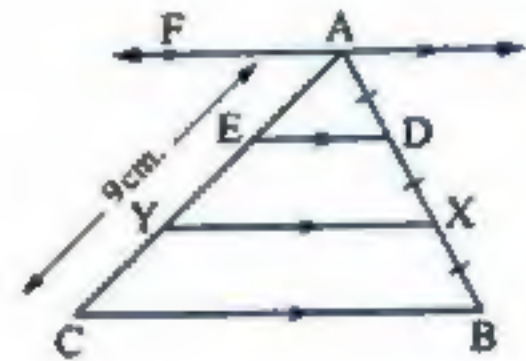
$\overrightarrow{AF}$ // $\overrightarrow{DE}$ // $\overrightarrow{XY}$ // $\overrightarrow{BC}$

, AD = DX = XB , AC = 9 cm.

Find : The length of $\overline{AY}$ (Give the reason)

4 **[a]** In the opposite figure :

$\overrightarrow{AB}$ // $\overrightarrow{CD}$ // $\overrightarrow{EF}$

, m (∠ A) = 45°

, m (∠ E) = 130°

Find : m (∠ ACE)
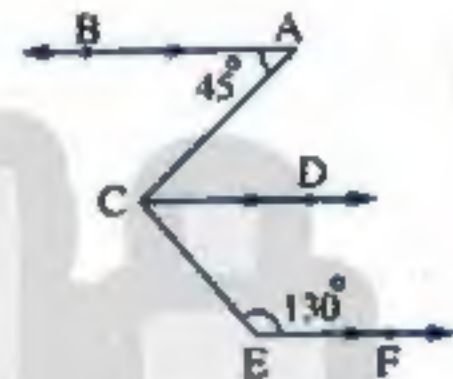
[b] In the opposite figure :

m (∠ AMB) = 110°

, m (∠ AMD) = 90°

, m (∠ DMC) = 40°

Find with steps : m (∠ BMC)
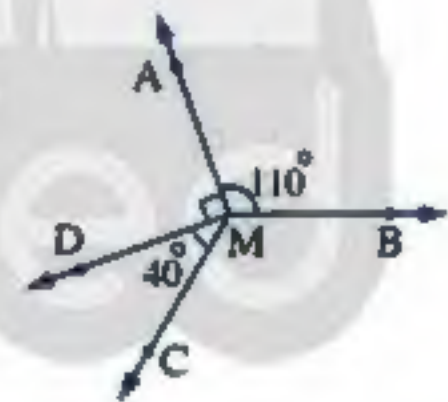
5 **[a]** In the opposite figure :

$\overrightarrow{AD} \cap \overrightarrow{BC} = \{M\}$

, BM = MC

, AM = MD

Write the conditions for △ AMB , △ DMC to be congruent.
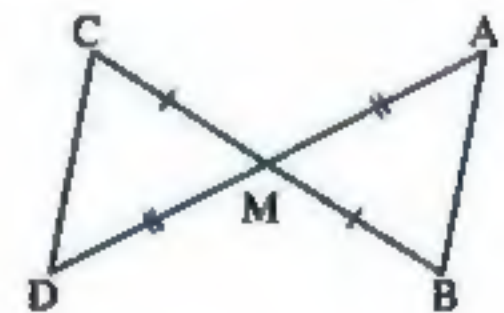
[b] Using your geometric instruments , draw ∠ ABC of measure 110° , then draw $\overrightarrow{BF}$ to bisect the angle.

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Geometry

Model 2

Answer the following questions :

1 Complete each of the following :

1. The sum of the measures of the accumulative angles at a point equals ....°

2. If a straight line intersects two parallel straight lines , then each two corresponding angles are ....

3. If m ($\angle$ A) = 110° , then m (reflex $\angle$ A) = ...°

4. Two right-angled triangles are congruent if ....

5. The two adjacent angles formed by the intersection of a straight line and a ray with a starting point on this straight line are ....

2 Choose the correct answer from those given :

1. If $\angle$ X complements $\angle$ Y and $\angle$ X $\equiv$ $\angle$ Y , then m ($\angle$ X) = ...

   (a) 45°   (b) 90°   (c) 180°   (d) 360°

2. The number of triangles in the figure [⊠] equals ....

   (a) 4   (b) 6   (c) 7   (d) 8

3. If the ratio between the measures of two supplementary angles is 5 : 13 , then the measure of the smaller angle is ....

   (a) 50°   (b) 130°   (c) 150°   (d) 180°

4. If $\triangle$ ABC $\equiv$ $\triangle$ XYZ , m ($\angle$ A) + m ($\angle$ B) = 100° , then m ($\angle$ Z) = ...

   (a) 50°   (b) 80°   (c) 90°   (d) 100°

5. The two straight lines that are perpendicular to a third one are ....

   (a) perpendicular.   (b) parallel.   (c) coincident.   (d) intersecting.

6. The figure .... is not congruent to the opposite figure.

   (a)   (b)

   (c)   (d)

Final Examinations
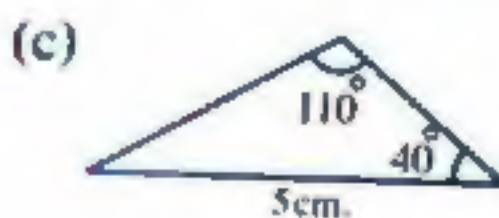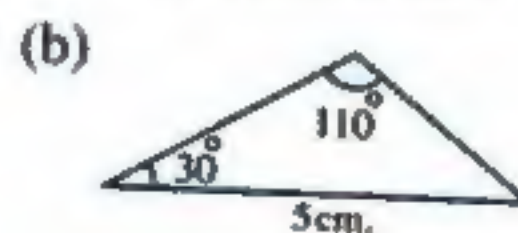
3 [a] Mention two cases of congruency of two triangles.

[b] In the opposite figure :

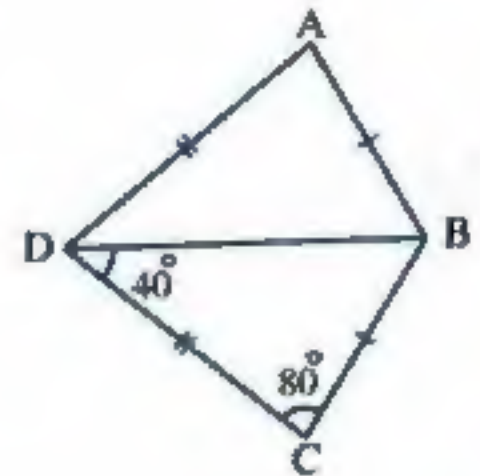$AB = BC$, $AD = DC$

, $m (\angle C) = 80°$

, $m (\angle BDC) = 40°$

Prove that : $\triangle CBD \equiv \triangle ABD$
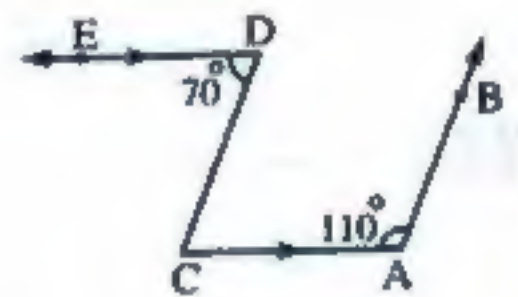
, **then find :** $m (\angle ABD)$

4 [a] In the opposite figure :

$\overrightarrow{DE} \parallel \overrightarrow{AC}$, $m (\angle A) = 110°$

, $m (\angle D) = 70°$

Find : $m (\angle C)$

Is $\overrightarrow{AB} \parallel \overrightarrow{CD}$? (Give the reason)

[b] Using the geometric instruments , draw $\angle ABC$ where $m (\angle B) = 80°$, then draw $\overrightarrow{BD}$ to bisect it.   (Don't remove the arcs).
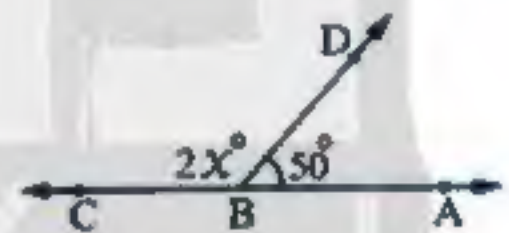
5 [a] In the opposite figure :

$\overleftrightarrow{AC} \cap \overrightarrow{BD} = \{B\}$

, $m (\angle ABD) = 50°$

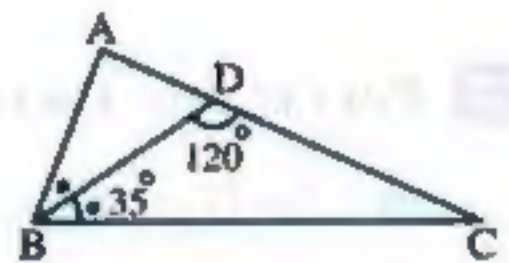, $m (\angle DBC) = 2 X°$

Find in degrees the value of X

[b] In the opposite figure :

$\overrightarrow{BD}$ bisects $\angle ABC$

, $m (\angle DBC) = 35°$

, $m (\angle BDC) = 120°$

Find : $m (\angle A)$ in degrees.

Geometry

Model examination for the merge students

Answer the following questions :
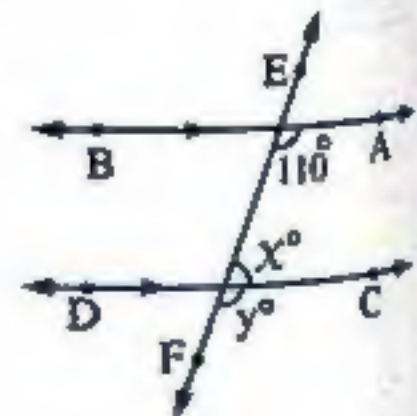
1 Complete each of the following :

1. If m (∠ A) = 100° , then m (reflex ∠ A) = ················°

2. The angle whose measure is 50° complements an angle of measure ···············°

3. The two straight lines parallel to a third are ···············

4. Two triangles are congruent if two sides and ···············

5. If △ ABC ≡ △ XYZ , then m (∠ Z) = m (∠ ···············)

2 Choose the correct answer from those given :

1. The sum of the measures of the accumulative angles at a point equals ···············
   - (a) 630°
   - (b) 180°
   - (c) 90°
   - (d) 360°

2. The axis of symmetry of a line segment is ···············
   - (a) perpendicular to it from its midpoint.
   - (b) parallel to it.
   - (c) equal to it in length.
   - (d) congruent to it.

3. The supplement of the angle whose measure is 30° is an angle of measure ···············
   - (a) 60°
   - (b) 180°
   - (c) 150°
   - (d) 90°

4. The angle whose measure is more than 90° and less than 180° is ··············· angle.
   - (a) an obtuse
   - (b) an acute
   - (c) a right
   - (d) a straight

5. If △ ABC ≡ △ XYZ , then AB = ···············
   - (a) XY
   - (b) XZ
   - (c) YZ
   - (d) BC

3 Put (✔) for the correct statement and (✗) for the incorrect statement :

1. The right-angled triangle is congruent to the equilateral triangle. ( )

2. The two angles whose measures are 100° and 80° are supplementary. ( )

3. From the opposite figure :
   - (a) $\overrightarrow{AB}$ // $\overrightarrow{EF}$ ( )
   - (b) $X = 70°$ ( )
   - (c) $y = 180°$ ( )

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4 [a] In the opposite figure :

$m (\angle ABC) = 50°$, $\overrightarrow{BA} \parallel \overrightarrow{CD}$

Complete to find : $m (\angle BCD)$

$\overrightarrow{BA} \parallel$ ....

, then $m (\angle ABC) = m (\angle$ ....) (............... angles)

, $m (\angle BCD) =$ ....°
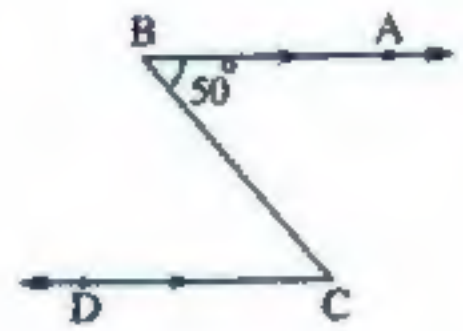
[b] From the opposite figure , complete :

1 $\triangle ABM \equiv \triangle$ ....

2 $AB =$ .... cm.

3 $m (\angle B) = m (\angle$ ....)
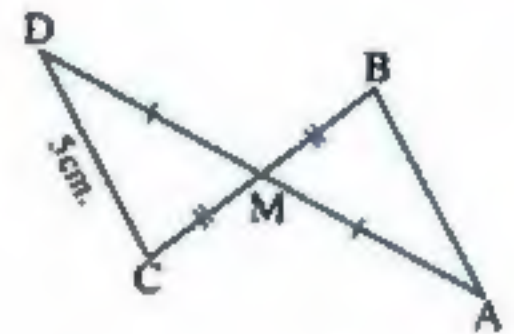
5 [a] In each of the following figures , find the value of x :

1

$x =$ ....°

2

$x =$ ....°

3

$x =$ ....°

4

$x =$ ....°
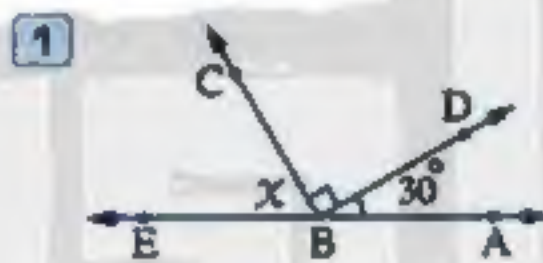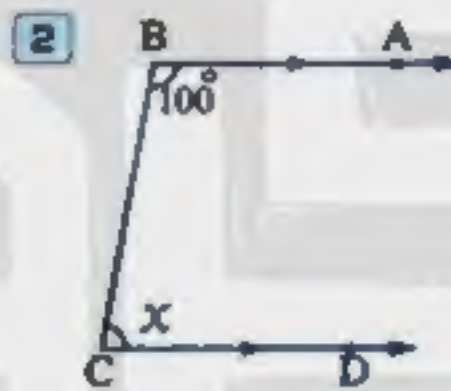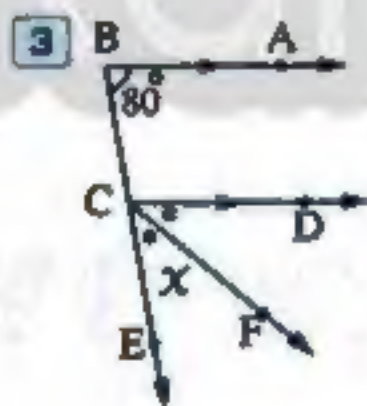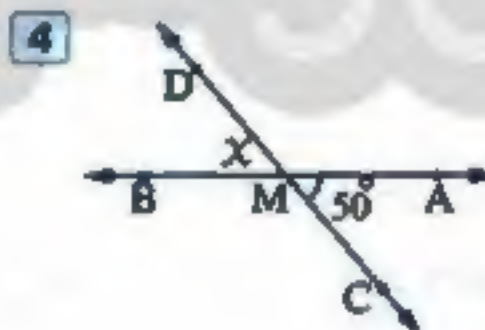
[b] In the opposite figure :

If $\triangle ABC \equiv \triangle DEA$,

$AE = 3$ cm. and $DE = 4$ cm.

, complete : $BE =$ .... cm.

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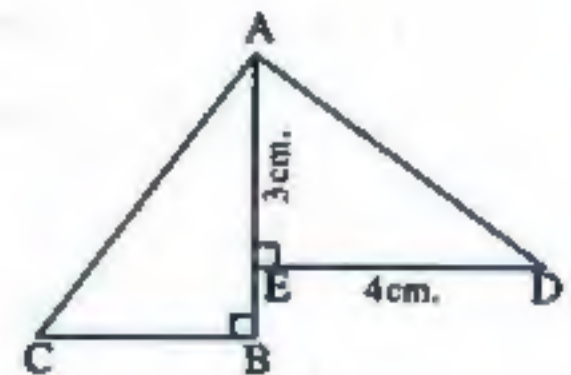
Some Schools Examinations

on Geometry

1 Cairo Governorate

Heliopolis Educational Directorate
St.Fatima Language School-Abbassia

Answer the following questions :

1 Complete :

1 The measure of each of two equal complementary angles equals ·············°

2 If m (∠ A) = 180° , then m (reflex ∠ A) = ·············°

3 The straight line that is perpendicular to one of two parallel lines is also ············· to the other.

4 In the opposite figure :

If m (∠ AMB) = 60°

, then X = ·············

5 If a straight line intersects two parallel straight lines , then each two corresponding angles are ·············
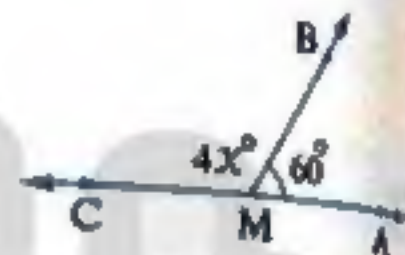
2 Choose the correct answer :

1 If m (∠ X) = 3 m (∠ Y) and ∠ X , ∠ Y are supplementary angles , then m (∠ X) = ·············

  (a) 90°   (b) 180°   (c) 45°   (d) 135°

2 If Δ ABC ≡ Δ XYZ and m (∠ X) + m (∠ Y) = 100° , then m (∠ C) = ·············

  (a) 50°   (b) 100°   (c) 90°   (d) 80°

3 The supplement of the angle whose measure is 30° is an angle of measure ·············

  (a) 60°   (b) 180°   (c) 150°   (d) 20°

4 The ratio between the measures of two complementary angles is 2 : 7 , then the measure of the smaller angle is ·············

  (a) 40°   (b) 140°   (c) 60°   (d) 20°

5 If two straight lines intersect , then each two ············· angles have the same measure.

  (a) vertically opposite   (b) adjacent

  (c) alternate   (d) corresponding

6 If Δ ABC ≡ Δ XYZ , then BC = ·············

  (a) XY   (b) YZ   (c) XZ   (d) AB

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Final Examinations

3 In the opposite figure :

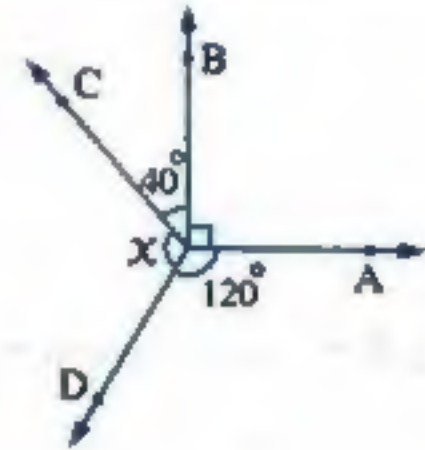$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}$

, m ($\angle$ A) = 40° , m ($\angle$ E) = 30°

Find : m ($\angle$ ACE)
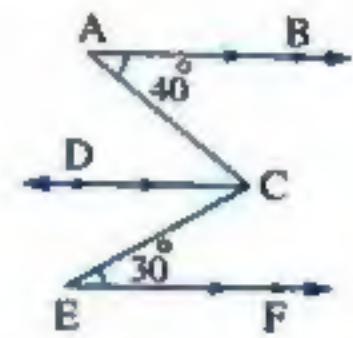
4 [a] In the opposite figure :
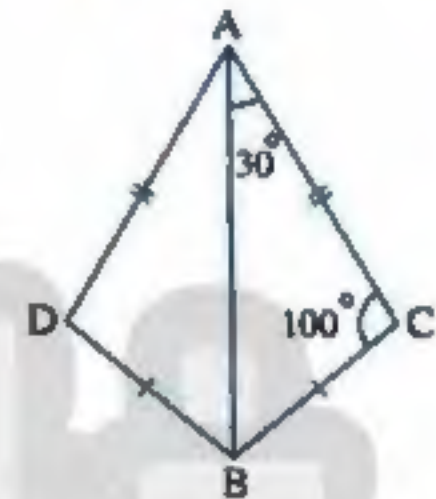
Find the value of x

[b] In the opposite figure :

AC = AD , BC = BD

, m ($\angle$ ACB) = 100°

, m ($\angle$ CAB) = 30°

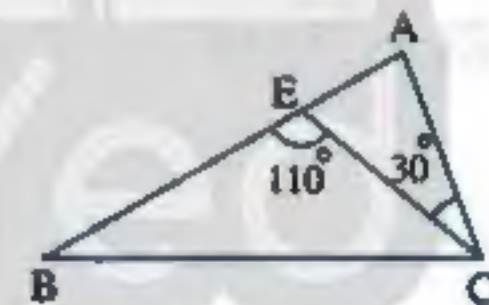1 Prove that : $\triangle$ ABC $\equiv$ $\triangle$ ABD

2 Find : m ($\angle$ ABD)

5 [a] Mention two cases of congruency of two triangles.

[b] In the opposite figure :

m ($\angle$ ACE) = 30°

, m ($\angle$ CEB) = 110°

Find : m ($\angle$ A)

(2) Cairo Governorate — Zietoun Educational Administration — Gomhouria Language School

Answer the following questions :

1 Choose the correct answer :

1 If two straight lines intersect , then each two vertically opposite angles are ················

(a) equal in measure. (b) adjacent. (c) supplementary. (d) complementary.

2 If $\angle$ X $\equiv$ $\angle$ Y and $\angle$ X , $\angle$ Y are complementary angles , then m ($\angle$ X) = ················

(a) 45° (b) 90° (c) 135° (d) 180°

Geometry

3 The best unit to measure the area of a room is ·············

(a) mm^2 (b) cm^2 (c) m^2 (d) km^2

4 If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) = 45°$, $m(\angle C) = 75°$, then $m(\angle Y) = $ ···········

(a) 60°   (b) 65°   (c) 55°   (d) 100°

5 If L_1 , L_2 and L_3 are straight lines , $L_1 \perp L_3$, $L_2 \perp L_3$, then L_1 ··········· L_2

(a) //   (b) $\perp$ (c) coincides   (d) intersects

6 The number of rectangles of the opposite figure is ···········

(a) 3   (b) 4   (c) 6   (d) 5

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2 Complete each of the following :

1 If $m(\angle A) = 100°$, then $m(\text{reflex } \angle A) = $ ···········°

2 Two triangles are congruent if each ··········· of one triangle is equal to the corresponding part of the other triangle.

3 The perpendicular to a line segment from its midpoint is called ···········

4 If the area of a rectangle is $20 \ cm^2$, its width is 4 cm. , then the perimeter of the rectangle is ··········· cm.

5 In the opposite figure :

If $\overrightarrow{AB} \cap \overrightarrow{MC} = \{M\}$

, then $X = $ ···········°

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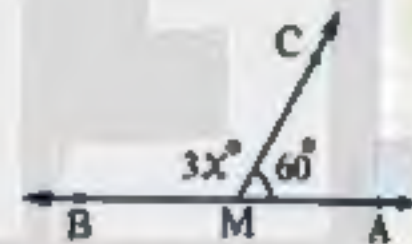
3 **[a]** In the opposite figure :

$\overrightarrow{DE} // \overrightarrow{AC}$, $m(\angle A) = 105°$

, $m(\angle D) = 75°$

Find : $m(\angle C)$

Is $\overleftrightarrow{AB} // \overleftrightarrow{CD}$? Giving the reason.
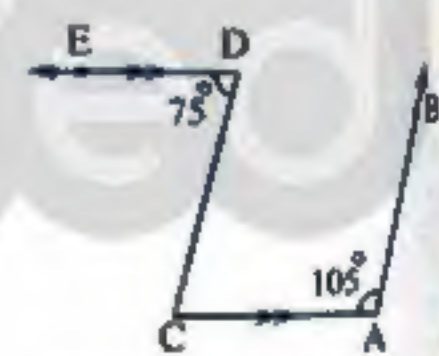
[b] By using your geometric instruments , draw $\overline{AB}$ of length 6 cm. , then draw the straight line L that is the axis of symmetry of $\overline{AB}$ where $\overline{AB} \cap L = \{C\}$

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4 **[a]** In the opposite figure :
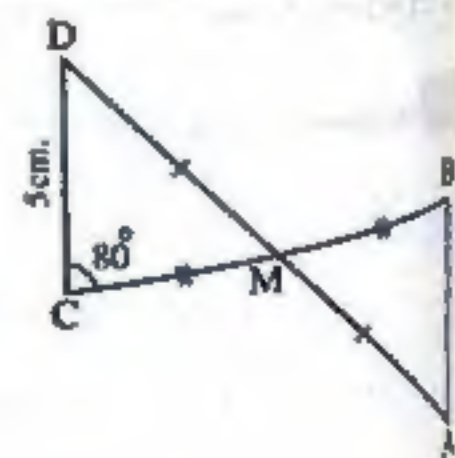
$m(\angle C) = 80°$, $\overline{CB} \cap \overline{AD} = \{M\}$

, $MB = MC$, $MD = MA$, $CD = 5$ cm.

Mention the conditions for

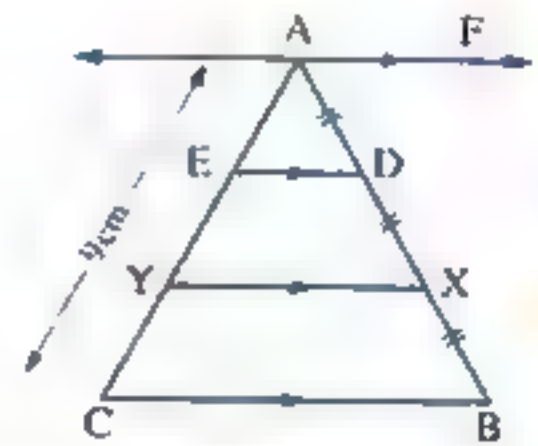$\triangle ABM$, $\triangle DCM$ to be congruent

, and find : $m(\angle B)$

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[b] In the opposite figure :

$\overline{AF} \parallel \overline{DE} \parallel \overline{XY} \parallel \overline{BC}$

, $AD = DX = XB$, $AC = 9$ cm.

Find : The length of $\overline{AY}$

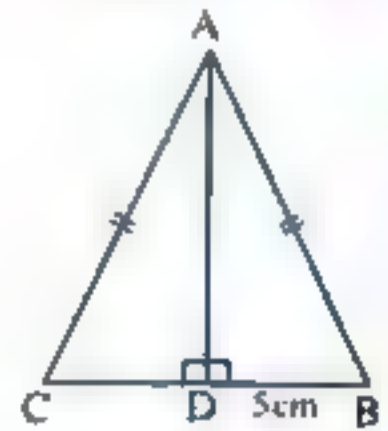---

5 **[a] In the opposite figure :**

$AB = AC$, m $(\angle ADB) = $ m $(\angle ADC) = 90°$, $BD = 5$ cm.

Mention the conditions for

$\triangle ABD$, $\triangle ACD$ to be congruent

, and find : The length of $\overline{BC}$

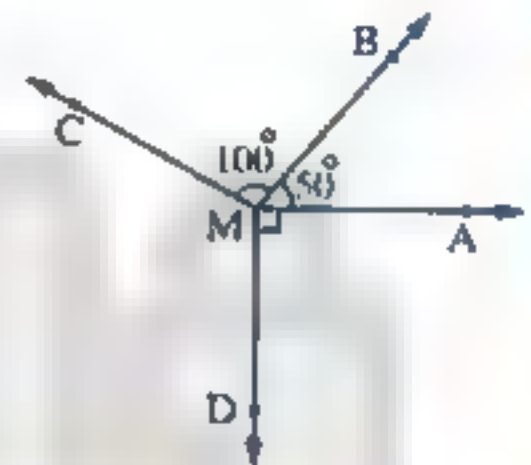**[b] In the opposite figure :**

m $(\angle AMB) = 50°$, m $(\angle CMB) = 100°$

, m $(\angle DMA) = 90°$

Find : m $(\angle CMD)$

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(3) **Cairo Governorate** — Dar El-Salam and El-Basateen Education Zone

Answer the following questions :

1 **Complete :**

1. The two adjacent angles formed by the intersection of a straight line and a ray with a starting point on this straight line are ··· ··········

2. The sum of measures of the accumulative angles at a point equals ·· ·········°

3. If m $(\angle X) = 140°$, then the measure of the reflex angle of $\angle X = $ ······ ········°

4. If two straight lines are perpendicular to a third , then the two straight lines are ··· ······ ···

5. If $\triangle ABC \equiv \triangle XYZ$, m $(\angle A) + $ m $(\angle B) = 100°$, then m $(\angle Z) = $ ·· ········ ·····°

2 **Choose the correct answer :**

1. If $\angle X \equiv \angle Y$ and $\angle X$, $\angle Y$ are complementary angles , then m $(\angle X) = $ ··· ····· ·····°

   (a) 45   (b) 90   (c) 180   (d) 30

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Geometry

2. If the ratio between the measures of two supplementary angles is 5 : 13 , then the measure of the smaller angle is ....°

(a) 130   (b) 50   (c) 180   (d) 150

3. If a straight line cuts two parallel lines , then each two corresponding angles are ....

(a) equal in measure.   (b) complementary.
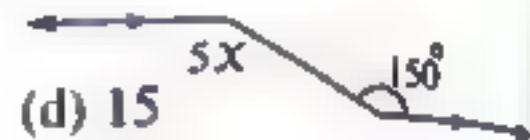
(c) supplementary.   (d) right.

4. If $\triangle XYZ \equiv \triangle ABC$, then ....

(a) BC = XZ   (b) YX = CA   (c) ZY = CB   (d) AB = YZ

5. In the opposite figure : X = ...°

(a) 50   (b) 30   (c) 90   (d) 15

6. If $\overline{XY} \equiv \overline{AB}$, XY = 5 cm. , then XY + 3 AB = ... cm.
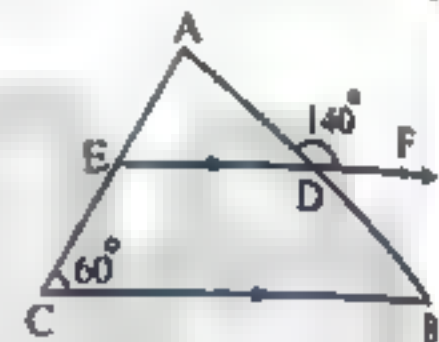
(a) 5   (b) 20   (c) 15   (d) 30

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3 [a] In the opposite figure :

$\overline{BC} \parallel \overline{EF}$, m ($\angle$ C) = 60°

, m ($\angle$ ADF) = 140°

Find each of the following : m ($\angle$ B) and m ($\angle$ A)

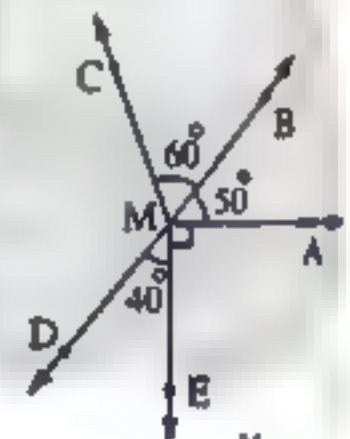[b] Draw $\angle$ XYZ of measure 120° , then bisect it. (Don't remove the arcs)

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4 [a] In the opposite figure :

If m ($\angle$ AMB) = 50° , m ($\angle$ BMC) = 60°

, m ($\angle$ DME) = 40°

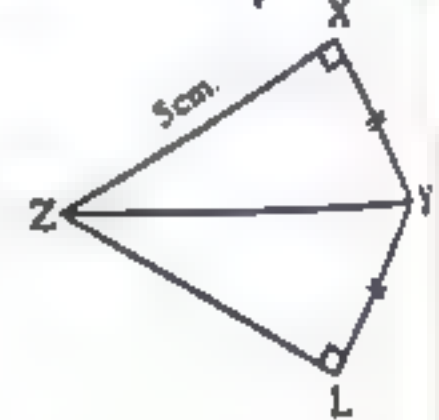and $\overrightarrow{MA} \perp \overrightarrow{ME}$

, find : m ($\angle$ CMD)

[b] In the opposite figure :

m ($\angle$ X) = m ($\angle$ L) = 90° , YX = YL

and ZX = 5 cm.

Prove that : $\triangle XYZ \equiv \triangle LYZ$, then find : the length of $\overline{ZL}$

[c] Mention two cases of congruency of two triangles.

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5 [a] In the opposite figure :

$\overline{AD} \cap \overline{BC} = \{M\}$

, BM = MC , AM = MD
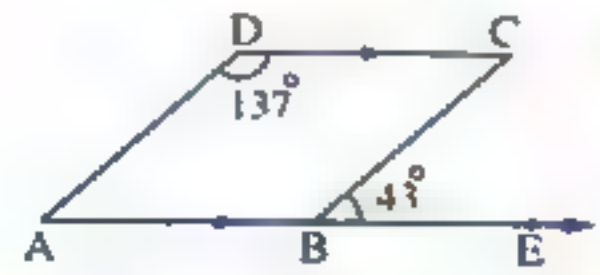
Prove that : $\triangle AMB \equiv \triangle DMC$

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Final Examinations

[b] In the opposite figure :

$\overrightarrow{AB} // \overrightarrow{DC}$, m (∠ EBC) = 43°

, m (∠ D) = 137°

Is $\overrightarrow{BC} // \overrightarrow{AD}$? Giving reason.

---

(4) Giza Governorate — El-Dokki Directorate Math Inspection

Answer the following questions :

1 Choose the correct answer :

1 The angle whose measure is more than 180° and less than 360° is called ········ · ····

(a) obtuse. (b) straight. (c) reflex. (d) acute.

2 The supplementary angle of the angle of measure 53° is an angle of measure ············· .

(a) 53° (b) 37° (c) 127° (d) 180°

3 If Δ MLN ≡ Δ XYZ , then m (∠ N) = m (∠ ···· ······ ···)

(a) M (b) X (c) Z (d) Y

4 The sum of measures of the accumulative angles at a point equals · ····· ······

(a) 180° (b) 360° (c) 90° (d) 270°

5 The two angles of measures : 40° , 50° are · ····· ·······

(a) complementary. (b) supplementary. (c) reflex. (d) obtuse.

6 In Δ XYZ , if m (∠ X) + m (∠ Z) = 95° , then m (∠ Y) = ···············

(a) 180° (b) 95° (c) 90° (d) 85°

2 Complete the following :

1 In the opposite figure :

$\overrightarrow{AC} \cap \overrightarrow{MD} = \{M\}$, m (∠ AMD) = 30°

, m (∠ CMD) = 3 X , then the value of X equals ···············°
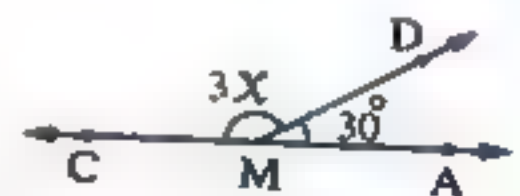
2 Two triangles are congruent if two sides and ········ ······· of one triangle are congruent to the corresponding parts of the other triangle.

3 If a straight line intersects two parallel straight lines , then each two corresponding angles are ·········· ·····

4 If two adjacent angles are supplementary , then their two outer sides are ···············

5 If m (∠ B) = 80° , then m (reflex ∠ B) = ···············°

Geometry

3 [a] In the opposite figure :

$\overrightarrow{AD} \cap \overrightarrow{BH} = \{M\}$, m ($\angle$ HMD) = 50°

, $\overrightarrow{MC}$ bisects $\angle$ BMD

Find : m ($\angle$ AMC)

[b] In the opposite figure :

$\overrightarrow{MA} \perp \overrightarrow{MB}$, m ($\angle$ AMD) = 65°

, m ($\angle$ DMC) = 150°

Find : m ($\angle$ BMC)
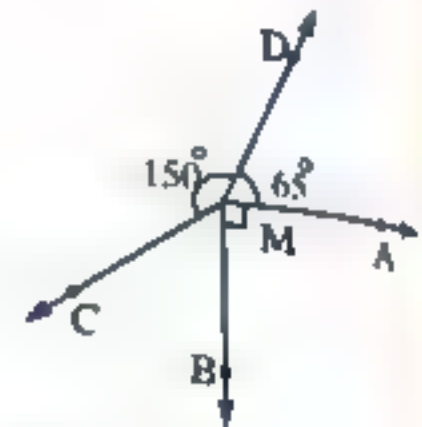
4 [a] In the opposite figure :

$\overrightarrow{AD} // \overrightarrow{CB}$, m ($\angle$ BAD) = 60° , m ($\angle$ C) = 45°

Find : m ($\angle$ BAC) , m ($\angle$ B)

[b] In the opposite figure :

AD = BC , AB = CD

1 Is △ ABD ≡ △ CDB ? Why ?

2 Complete : m ($\angle$ A) = m ($\angle$ ....)
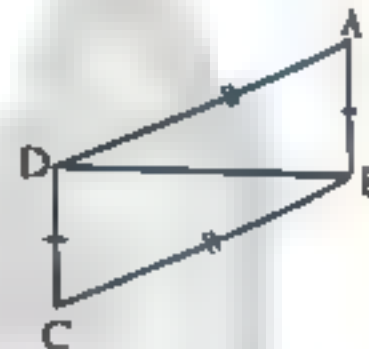
5 [a] In the opposite figure :

m ($\angle$ B) = 30° , m ($\angle$ EDF) = 30°

Is $\overrightarrow{DE} // \overrightarrow{BA}$? Why ?
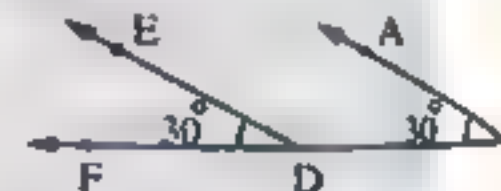
[b] Using the geometric instruments , draw $\angle$ ABC of measure 115° , then draw $\overrightarrow{BD}$ to bisect it.

(Don't remove the arcs)

5 Giza Governorate   Education Administration of 6 October

Answer the following questions :

1 Choose the correct answer :

1 When a transversal cuts two parallel lines , then every two .... angles are equal in measure.

(a) alternate   (b) supplementary   (c) complementary   (d) adjacent

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[2] The perpendicular bisector of a line segment is called ·············

(a) symmetry axis.   (b) parallel line.   (c) intersecting line. (d) median.

[3] If m (∠ A) = 90° , then m (reflex ∠ A) = ··············

(a) 90°   (b) 270°   (c) 180°   (d) 0°

[4] The measure of the straight angle equals ·· ···········

(a) 0°   (b) 90°   (c) 180°   (d) 270°

[5] The angle whose measure is 179° , is ··············· angle.

(a) an acute   (b) a right   (c) an obtuse   (d) a straight

[6] If ∠ X ≡ ∠ Y and ∠ X , ∠ Y are supplementary angles , then m (∠ X) = ··············

(a) 45°   (b) 90°   (c) 135°   (d) 180°

2 Complete :

[1] The angle whose measure is 36° complements an angle of measure ··············°
and supplements an angle of measure ··········· °

[2] The two right-angled triangles are congruent if ··········· ·

[3] If Δ ABC ≡ Δ XYZ , then m (∠ A) = m (∠ ··············) , and XY = ··········· ··

[4] The sum of measures of the accumulative angles at a point equals ··············°

[5] The angle whose measure is greater than 180° and less than 360° is called · ····· ····

3 [a] In the opposite figure :

AB = DE

, BC = AD , m (∠ CAB) = 57°
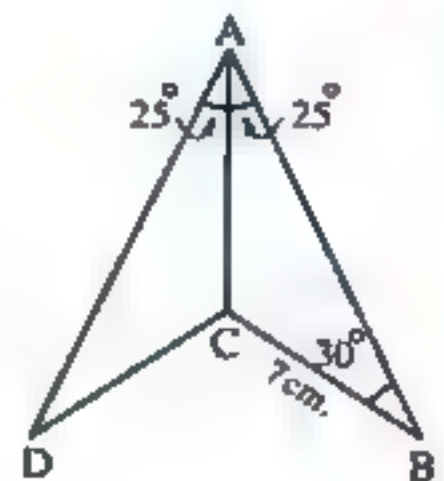
Find the measures of the unknown angles in the triangle ADE

[b] In the opposite figure :

If Δ ACB ≡ Δ ACD , complete :

[1] m (∠ D) = ···············°

[2] CD = ··············· cm.

[3] m (∠ ACD) = ···············°

4 [a] Draw the angle ABC where m (∠ ABC) = 70° , then using the ruler and the compasses , draw $\overrightarrow{BD}$ to bisect the angle.   (Don't remove the arcs)

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Geometry

[b] In the opposite figure :

m (∠ AMB) = 30°

, m (∠ BMC) = 110°

and m (∠ AMD) = 90°

Find : m (∠ CMD)

5 **[a]** In the opposite figure :

$\overrightarrow{AO}$ // $\overrightarrow{HD}$ // $\overrightarrow{YX}$ // $\overrightarrow{CB}$

, AD = DX = XB and AC = 18 cm.

Find : The length of $\overrightarrow{AY}$
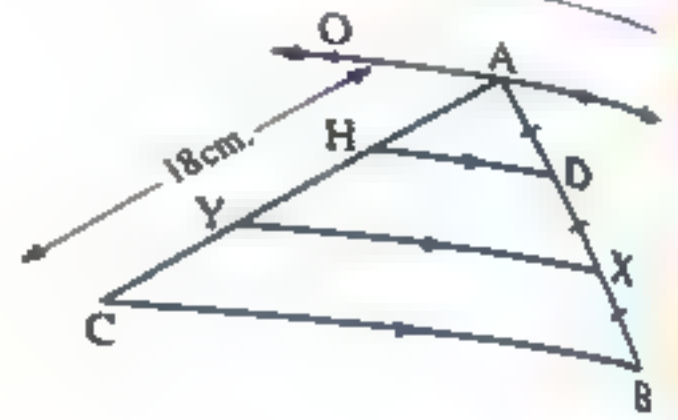
[b] In the opposite figure :

$\overrightarrow{AB}$ // $\overrightarrow{CD}$, $\overrightarrow{EF}$ // $\overrightarrow{CD}$

, m (∠ A) = 42° and m (∠ C) = 117°

Determine : m (∠ AEC)
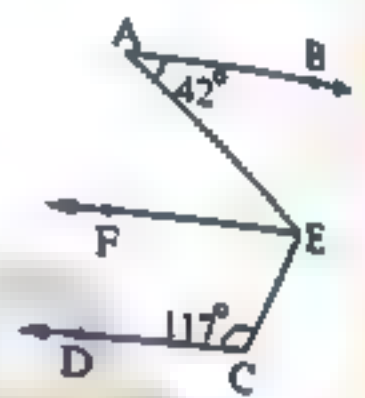
6 Alexandria Governorate

El-Montaza Educational Zone
Maths Supervision

Answer the following questions :

1 **Complete :**

1. The angle of measure .... complements an angle of measure 25°

2. The sum of measures of the accumulative angles at a point is equal to ....°

3. In the opposite figure :

If the perimeter of the shape ABDC = 20 cm.

and the length of $\overrightarrow{AD}$ = 6 cm.

, then the perimeter of Δ ABD = ... cm.

4. If a straight line intersects two parallel straight lines

, then every two corresponding angles are .... in measure.

5. An angle has a measure of 120° , then the measure of its reflex angle is ....°
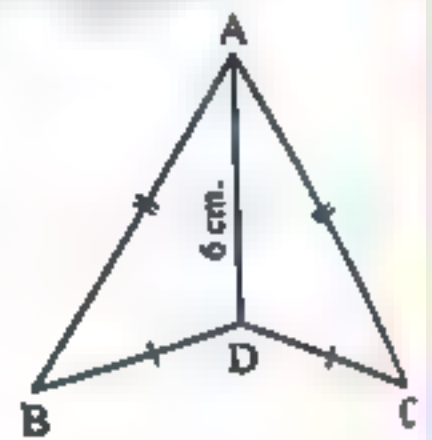
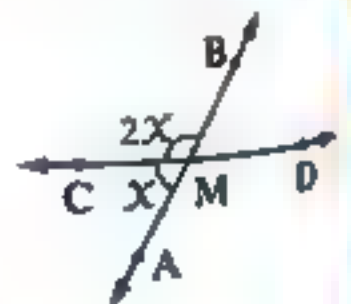**2** **Choose the correct answer :**

1. In the opposite figure :

If $\overrightarrow{AB}$ ∩ $\overrightarrow{CD}$ = {M} , then X = ...

(a) 30°   (b) 45°   (c) 60°   (d) 90°

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Final Examinations

2. If m (∠ B) = 38° , then its supplementary angle is of measure ... ...

(a) 52°

(b) 142°

(c) 228°

(d) 322°

3 **In the opposite figure :**

$\overrightarrow{AM}$ bisects ∠ BAC , then m (∠ BAC) = ...

(a) 38°

(b) 76°

(c) 142°

(d) can't be calculated.
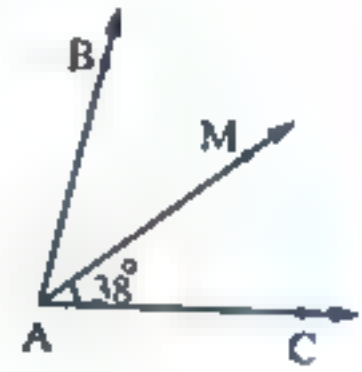
4 **In the opposite figure :**

x = ...

(a) 70°

(b) 90°

(c) 110°

(d) 290°
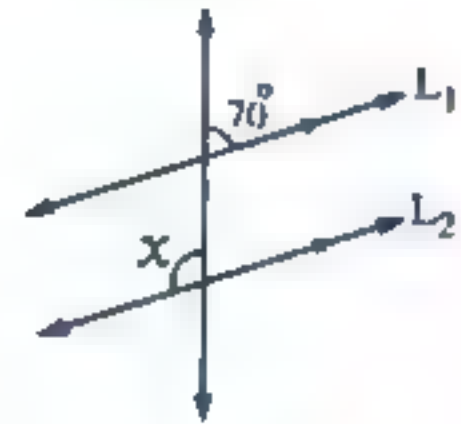
5 **In the opposite figure :**

$\overleftrightarrow{AC} \cap \overleftrightarrow{BD} = \{M\}$, AM = MD = 5 cm.

and m (∠ A) = m (∠ D) , then CD = ... cm.

(a) 5

(b) 7

(c) 8

(d) 12

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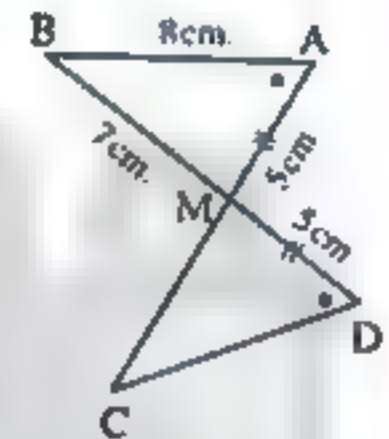
[a] In the opposite figure :

m (∠ ADB) = 90°

, $\overrightarrow{DC}$ bisects the reflex angle BDA

Calculate : m (∠ BDC)
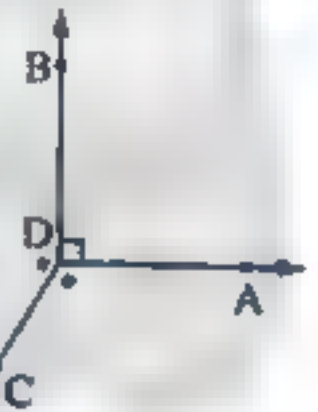
[b] In the opposite figure :

AB = AD , BC = 7 cm. , m (∠ B) = 100°

and m (∠ BAC) = m (∠ DAC) = 30°

1 Is Δ BAC ≡ Δ DAC ? Why ?

2 Find : m (∠ ACD) and the length of $\overline{CD}$

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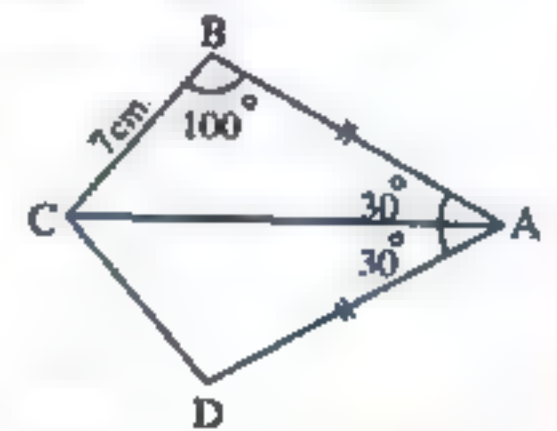
[a] In the opposite figure :

ABC is a triangle where the point A ∈ $\overleftrightarrow{CD}$

, $\overrightarrow{AE}$ // $\overleftrightarrow{CB}$, m (∠ DAE) = 70°

and m (∠ EAB) = 55°

Calculate the measure of each angle in the triangle ABC

73   كراسة المحاضر رياضيات (الفتنا / ١ إعدادى / ترم ١ (٢ : ١٠)
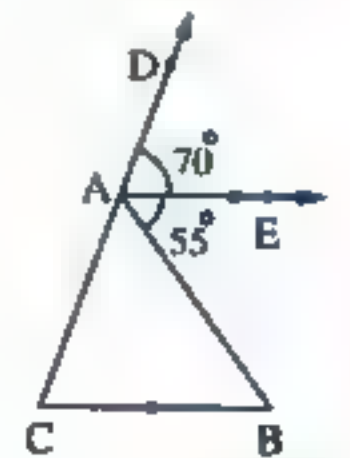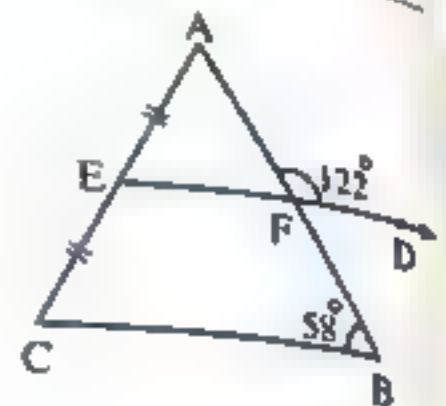
Geometry

[b] Draw a line segment $\overline{AB}$ of length 8 cm. , then draw its line of symmetry.
(perpendicular bisector of it)

(Don't remove the arcs)

5 **[a]** In the opposite figure :

ABC is a triangle , E is the midpoint of $\overline{AC}$
, $\overrightarrow{EF}$ intersects $\overline{AB}$ at F , m ($\angle$ AFD) = 122°
and m ($\angle$ B) = 58°
Is $\overrightarrow{EF}$ // $\overrightarrow{CB}$? Why ?

[b] In the opposite figure :

ABC is an isosceles triangle
and $\overline{AD} \perp \overline{BC}$
Why does m ($\angle$ C) = m ($\angle$ B) ?

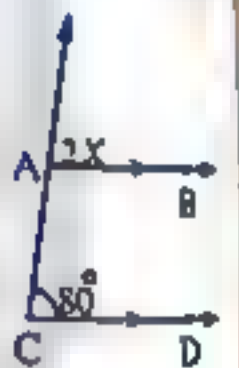**(7)** Alexandria Governorate   East Educational Zone Inspectorate of Mathematics

Answer the following questions :

1 Choose the correct answer :

[1] In the opposite figure :
m ($\angle$ C) = 80° , $\overrightarrow{AB}$ // $\overrightarrow{CD}$, then X = ...
(a) 80°   (b) 50°   (c) 40°   (d) 100°

[2] Two triangles are congruent if .... are congruent.
(a) two corresponding sides
(b) two corresponding sides and the included angle
(c) a side and an angle with their corresponding
(d) their corresponding angles

[3] If $\triangle$ ABC $\equiv$ $\triangle$ XYZ , then BC = ...
(a) XY   (b) AB   (c) XZ   (d) YZ

[4] The acute angle supplements .... angle.
(a) an acute   (b) a right   (c) an obtuse   (d) a straight

5. If two straight lines intersects , then each two .... angles have the same measure.
(a) vertically opposite
(b) adjacent
(c) alternate
(d) corresponding

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6) The image of the point $(-3, 5)$ by translation $(0, -10)$ is ....

(a) $(3, -5)$ (b) $(-3, -5)$ (c) $(3, 5)$ (d) $(5, -3)$

2 Complete each of the following :

1 If a straight line intersects two parallel straight lines , then each two alternate angles are .. ..

2 If the ratio between the measures of two supplementary angles is 1 : 2 , then the measure of the smaller angle equals ....°

3 If $\angle A \equiv \angle B$, then m $(\angle A) -$ m $(\angle B) =$ . ...

4 The perpendicular bisector of a line segment is called ....

5 The square has .... axes of symmetry.

3 [a] In the opposite figure :

$\overrightarrow{AB} \cap \overrightarrow{CD} = \{M\}$, m $(\angle AMC) = 40°$

and $\overrightarrow{MD}$ bisects $\angle BME$

Find : m $(\angle AME)$
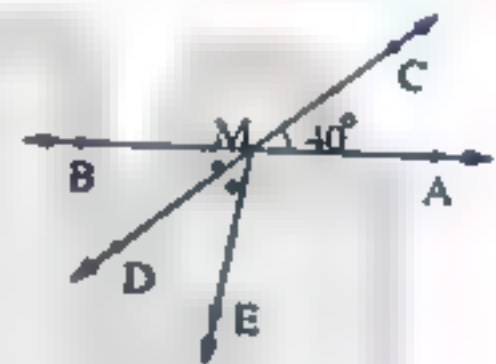
[b] Using the ruler and the compasses , draw $\triangle ABC$ in which $AB = AC = 6$ cm. , $BC = 5$ cm. Bisect $\angle B$, $\angle C$ by two bisectors which intersect at M
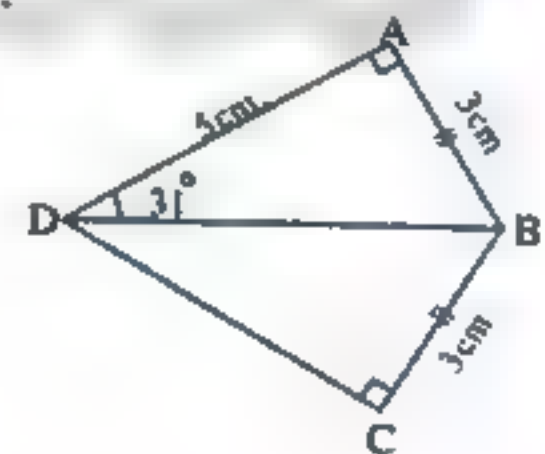
(Don't remove the arcs)

4 [a] In the opposite figure :

m $(\angle BAD) =$ m $(\angle BCD) = 90°$

, m $(\angle ADB) = 31°$, $AB = CB = 3$ cm. , $AD = 5$ cm.

1 Is $\triangle ABD \equiv \triangle CBD$? Why ?

2 Find : The length of $\overline{CD}$

3 Find : m $(\angle ADC)$

[b] In the opposite figure :

$\overrightarrow{AD} \ // \ \overrightarrow{BC}$

, $\overrightarrow{AD}$ bisects $\angle EAB$

, m $(\angle ABC) = 51°$

Find : m $(\angle BAD)$ and m $(\angle C)$

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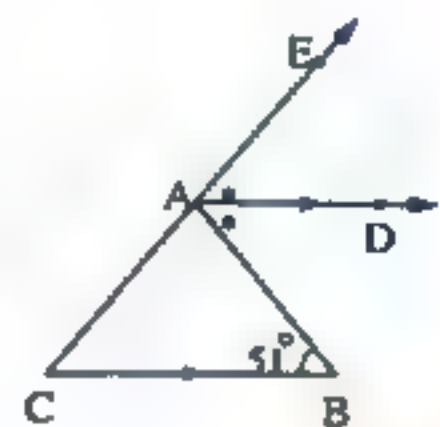
Geometry

5 [a] In the opposite figure :

$\overrightarrow{AB}$ // $\overrightarrow{CD}$ // $\overrightarrow{EF}$, AC = CE , DB = 5 cm.

Find : The length of $\overline{BF}$

, by giving the reason.
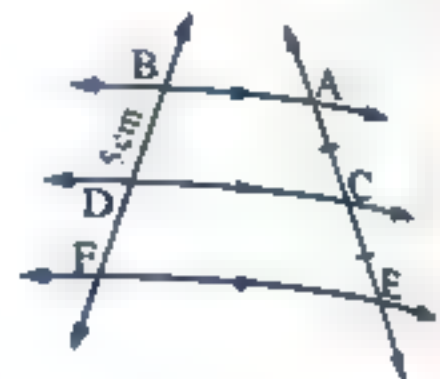
[b] In the opposite figure :

The polygon ABCF ≡ the polygon EDCF

, m (∠ EFC) = 110° , BC = 5 cm.

Find : ① m (∠ AFC) , m (∠ AFE) , m (∠ FCB)

② The length of $\overline{BD}$
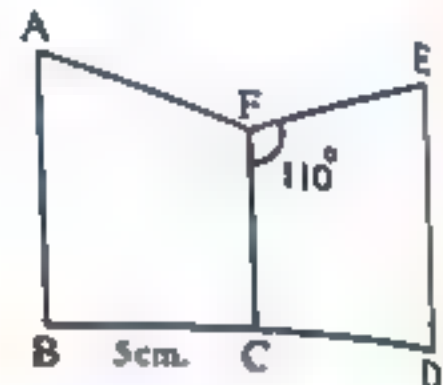
8 El-Kalyoubia Governorate — Directorate of Education Math Supervision

Answer the following questions :

1 Choose the correct answer from those given :

① If two straight lines intersect , then each two ·········· angles have the same measure.

(a) corresponding (b) alternate (c) adjacent (d) vertically opposite

② If two straight lines are perpendicular to a third , then the two straight lines are ··············

(a) intersecting. (b) perpendicular. (c) parallel. (d) coincident.

③ The rectangle has ·············· lines of symmetry.

(a) zero (b) 2 (c) 3 (d) 4

④ If △ ABC ≡ △ LMN , then m (∠ BCA) = m (∠ ·········)

(a) MNL (b) MLN (c) NML (d) NLM

⑤ If $\overline{AB}$ ≡ $\overline{CD}$, then AB − CD = ··············

(a) 1 (b) 2 (c) zero (d) 5

⑥ Any two line segments are congruent if they are equal in ··············

(a) measure. (b) capacity. (c) weight. (d) length.

2 Complete the following :

① The two straight lines parallel to a third are ··············

② If m (∠ B) = 110° , then m (reflex ∠ B) = ··············°

③ The two adjacent angles formed by intersecting of a straight line and a ray are ··············

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Final Examinations

4 The two right-angled triangles are congruent if · · · · · · ·

5 A square of side length 7 cm. , then its area = ·············· cm².

3 [a] **In the opposite figure :**

$\overrightarrow{AD} \cap \overrightarrow{BC} = \{M\}$, MB = MC , MA = MD

Write the conditions for △ AMB and △ DMC to be

congruent :

1 · · · · · ·   2 ··············   3 ··············

[b] **Using the opposite figure , complete :**

1 m (∠ AMB) + m (∠ BMC)

+ m (∠ CMD) + m (∠ DMA) = ·············°

2 m (∠ BMC) = ·············· − ··············

= ·············°
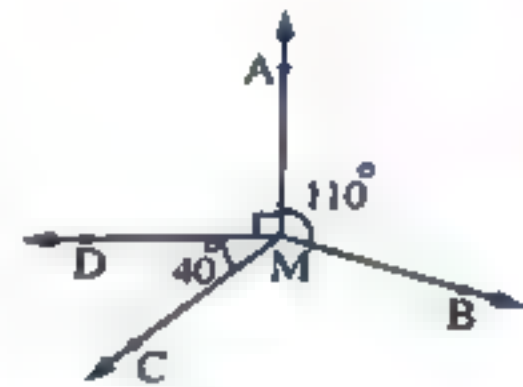
4 [a] **In the opposite figure :**

$\overrightarrow{BA} \parallel \overrightarrow{CD}$, m (∠ B) = 80° , $\overrightarrow{CF}$ bisects ∠ DCE

Complete :

1 m (∠ DCE) = m (∠ ··············) = ··············°

2 m (∠ ECF) = ··············°
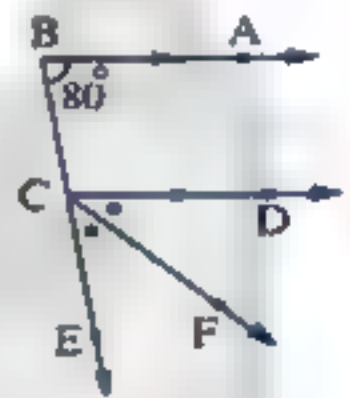
[b] **Using the opposite figure , complete :**

1 △ ABC ≡ △ EDA

because ·············· , ·············· , ··············

2 m (∠ EAD) = ·············°
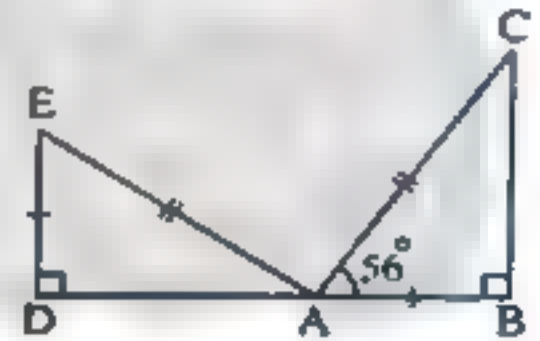
5 [a] **In the opposite figure :**

$\overrightarrow{DE} \parallel \overrightarrow{AC}$, $\overrightarrow{AB} \parallel \overrightarrow{CD}$, m (∠ D) = 65°

Complete :

1 m (∠ C) = m (∠ ··············) ≡ ··············°

2 m (∠ A) = ··············° because ··············
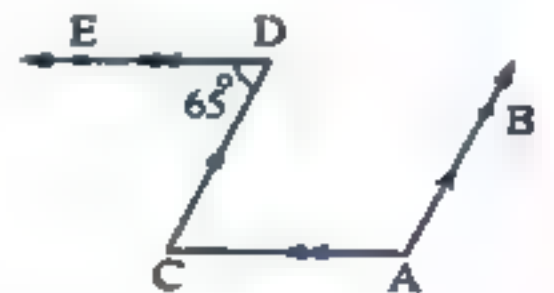
[b] By using your geometric instruments , draw $\overline{AB}$, where AB = 8 cm. and draw the axis
of symmetry of $\overline{AB}$ (Don't remove the arcs).

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Geometry

9 El-Sharkia Governorate · Helio Exp. Lang. School Department's Math's

Answer the following questions :

1 Complete each of the following :

1 The angle whose measure is 30° complements an angle of measure ⋯⋯ °

2 If $\triangle ABC \cong \triangle XYZ$, $m(\angle A) + m(\angle B) = 110°$, then $m(\angle Z) = $ ⋯⋯ °

3 If $m(\angle A) = 140°$, then $m(\text{reflex } \angle A) = $ ⋯⋯⋯⋯ °

4 If a straight line cuts two parallel straight lines , then each two corresponding angles are ⋯⋯

5 In the opposite figure :

If $\overrightarrow{BA} \perp \overrightarrow{BC}$

, then $m(\angle CBD) = $ ⋯⋯ °
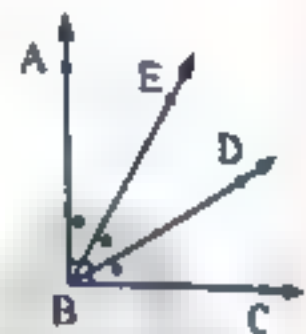
2 Choose the correct answer :

1 In the opposite figure :

$m(\angle D) = $ ⋯⋯

(a) 25°   (b) 30°

(c) 60°   (d) 125°
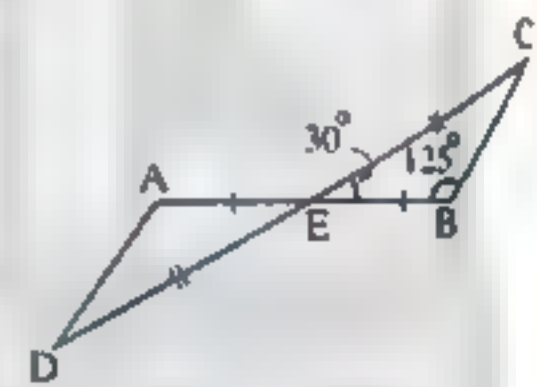
2 In the opposite figure :

$m(\angle ABF) = $ ⋯⋯

(a) 45°   (b) 90°   (c) 135°   (d) 40°

3 The angle of measure 98° its type is ⋯⋯

(a) acute.   (b) right.   (c) obtuse.   (d) straight.

4 The sum of measures of the accumulative angles at a point equals ⋯⋯

(a) 90°   (b) 180°   (c) 630°   (d) 360°

5 If $m(\angle A) = 2\,m(\angle B)$, $\angle A$ supplements $\angle B$, then $m(\angle B) = $ ⋯⋯

(a) 30°   (b) 60°   (c) 90°   (d) 120°

6 The obtuse angle supplements ⋯⋯ angle.

(a) an acute   (b) an obtuse   (c) a zero   (d) a right

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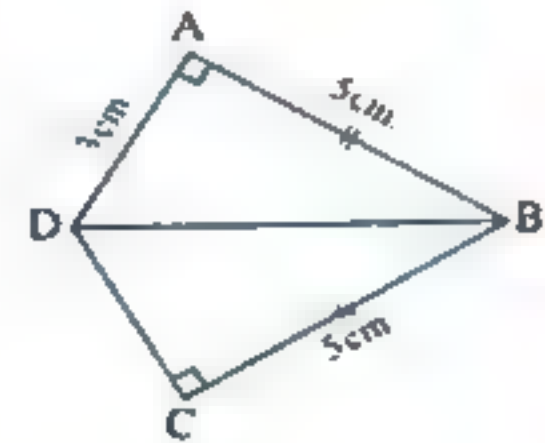Final Examinations

3 [a] In the opposite figure :

m (∠ BAD) = m (∠ BCD) = 90°

, AB = CB = 5 cm. , AD = 3 cm.

Mention the conditions for Δ ABD , Δ CBD

to be congruent

, then find : The length of $\overline{CD}$

[b] In the opposite figure :

If $\overrightarrow{AB}$ // $\overrightarrow{CD}$, m (∠ D) = 65° , m (∠ A) = 115°

, then prove that : $\overrightarrow{AC}$ // $\overrightarrow{DE}$
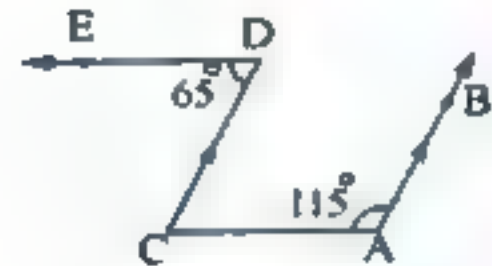
4 [a] In the opposite figure :

If B ∈ $\overleftrightarrow{AC}$, m (∠ DBC) = 135°

and $\overrightarrow{BA}$ bisects ∠ DBE

, find :

1 m (∠ ABD)　　2 m (∠ DBE)　　3 m (∠ CBE)

[b] From the opposite figure , complete :

1 Δ ABM ≡ Δ ··· ·· ·····
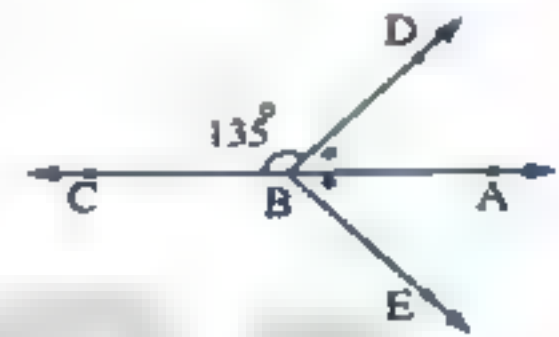
2 AB = ··· ··· ··· cm.

3 m (∠ B) = m (∠ ··· ···· ····)
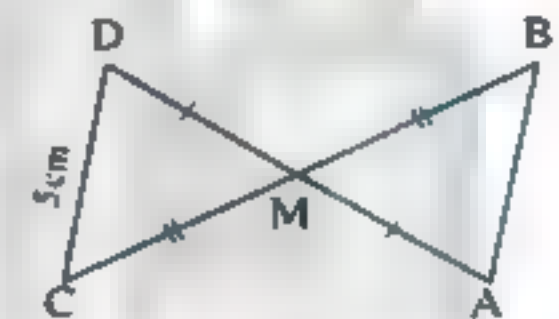
5 [a] In the opposite figure :
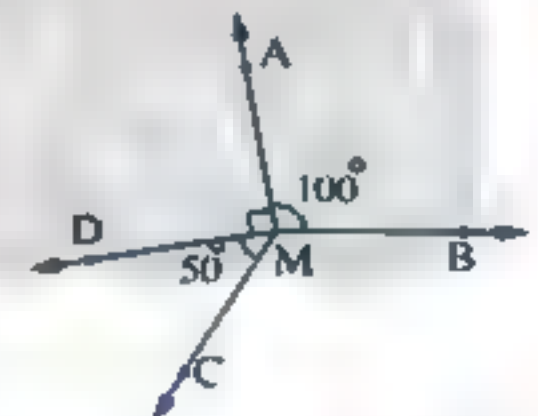
m (∠ BMA) = 100°

, m (∠ AMD) = 90°

, m (∠ DMC) = 50°

Find with steps : m (∠ BMC)

[b] Draw the line segment AB of length 8 cm. , then construct the axis of symmetry of $\overline{AB}$

(Don't remove the arcs)

(10) El-Monofia Governorate — Shibon Elkom Directorate — Supervisor of Math

Answer the following questions :

1 Choose the correct answer :

1 If m (∠ A) = 130° , then m (reflex ∠ A) = ··· ···········

(a) 130°　　　(b) 50°　　　(c) 285°　　　(d) 230°

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هذا العمل خاص بموقع ذاكرولي التعليمي ولا يسمح بتداوله على مواقع أخرى
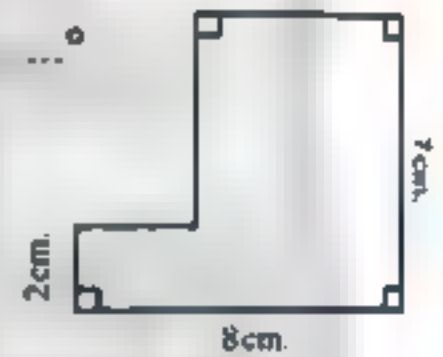
Geometry

2 If the triangle ABC ≡ the triangle XYZ , then $\overline{AC}$ ≡ · · · · · · ·

(a) $\overline{AB}$ (b) $\overline{XY}$ (c) $\overline{YZ}$ (d) $\overline{XZ}$

3 If two adjacent angles are supplementary , then their outer sides are · · · · · ·

(a) perpendicular .   (b) coincident.

(c) skew.   (d) on the same straight line.

4 If the perimeter of a square is 24 cm. , then its area is · · · · · · · · · · ·

(a) 8 cm².   (b) 9 cm².   (c) 3 cm².   (d) 36 cm².

5 In the opposite figure : The number of rectangles = · · · · · · · · · · ·

(a) 4   (b) 6   (c) 8   (d) 10

6 If L // M , L // N , then the two straight lines M and N are · · · · · · · · ·

(a) perpendicular.   (b) parallel.   (c) intersecting.   (d) congruent.

2 Complete :

1 Two triangles are congruent if two sides and · · · · · · · · · · congruent with the corresponding parts from the other triangle.

2 If a straight line cuts two straight lines and two corresponding angles are equal in measure , then the two straight lines are · · · · · · ·

3 The angle of measure 50° complements an angle of measure · · · · · · · · · °

4 Two angles are congruent if · · · · · · · · · · · ·

5 The perimeter of the opposite figure equals · · · · · · · · · · · · cm.

3 [a] Use the geometric instruments to draw ∠ ABC of measure 125° , then bisect it. (Don't remove the arcs)

[b] In the opposite figure :

$\overleftrightarrow{AD} \cap \overleftrightarrow{BE} = \{C\}$, AC = CD

, BC = CE , AB = 7 cm. , m (∠ B) = 80°

1 Is △ ABC ≡ △ DEC ? Why ?

2 Find : The length of $\overline{ED}$, m (∠ E)
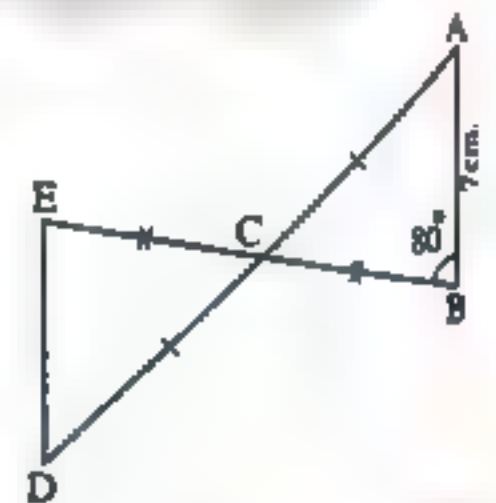
4 [a] In the opposite figure :

$B \in \overleftrightarrow{AC}$

, $\overrightarrow{BE}$ bisects ∠ DBC , m (∠ ABD) = 40°

Find : m (∠ DBC) , m (∠ ABE)

80
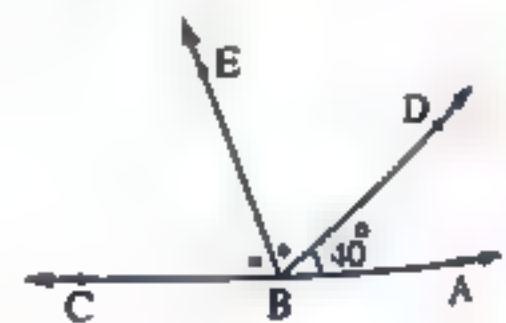
Final Examinations

[b] In the opposite figure :
$\overleftrightarrow{XY} \parallel \overleftrightarrow{DE}$
, m (∠ XAB) = 80° , m (∠ B) = 80°
, AD = BD , AC = 10 cm.
Is $\overleftrightarrow{DE} \parallel \overleftrightarrow{BC}$? Why ?
Find : The length of $\overline{AE}$, give reason

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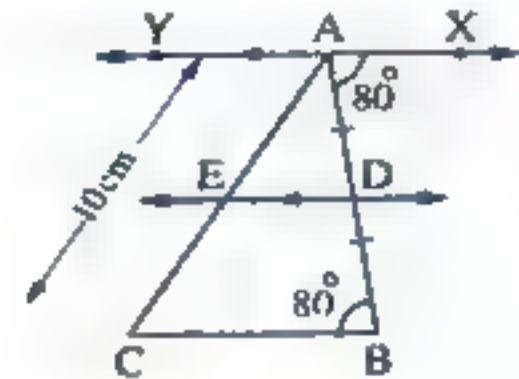
5 **[a]** In the opposite figure :
AB = CB , AD = CD
, m (∠ CDB) = 25°
Is △ ABD ≡ △ CBD ? Why ?
Find : m (∠ ADC)
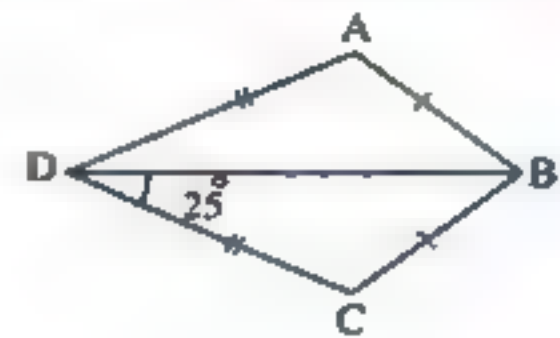
[b] In the opposite figure :
$\overleftrightarrow{BA} \parallel \overleftrightarrow{CD} \parallel \overleftrightarrow{EO}$
, m (∠ ABC) = 30°
, m (∠ CEO) = 110°
Find : m (∠ BCE)

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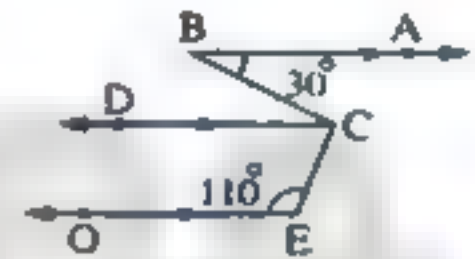
(11) El-Gharbia Governorate — The central Maths Supervision Official Language Schools

Answer the following questions :

1 Choose the correct answer :

1 If m (∠ A) = 65° , then m (reflex ∠ A) = ···········
(a) 305° (b) 295° (c) 25° (d) 115°

2 The acute angle complements ············· angle.
(a) a right (b) an obtuse (c) an acute (d) a straight

3 ABCD is a rectangle , then $\overline{AC}$ = ···········
(a) $\overline{BD}$ (b) $\overline{AD}$ (c) $\overline{DC}$ (d) $\overline{BC}$

4 The sum of measures of the accumulative angles at one point equals ···········
(a) 90° (b) 180° (c) 270° (d) 360°

5 If ∠ X supplements ∠ Y and m (∠ X) = $\frac{1}{2}$ m (∠ Y) , then m (∠ Y) = ···········
(a) 30° (b) 45° (c) 60° (d) 120°

6 The two straight lines parallel to a third straight line are ···········
(a) intersecting. (b) parallel. (c) coincident. (d) perpendicular.

Geometry

2 Complete each of the following :

1 The angle whose measure is more than 90° and less than 180° is ....

2 Two angles are congruent if ....

3 If two adjacent angles are complementary , then their outer sides are ....

4 In the opposite figure :

m ($\angle$ ADC) = 30° and m ($\angle$ BDC) = 5 X , then X = ...

5 If a straight line intersects two parallel straight lines , then each two alternate angles are ....

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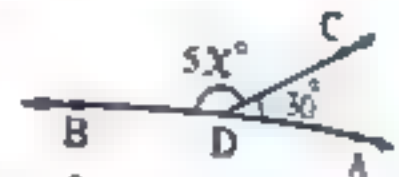
3 [a] In the opposite figure :

m ($\angle$ XMZ) = 90°

, m ($\angle$ ZMY) = 110°

and m ($\angle$ YML) = 50°

Find by steps : m ($\angle$ XML)
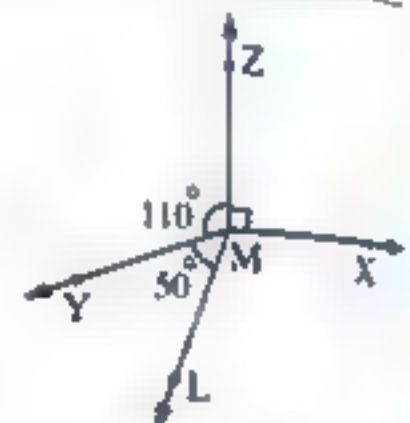
[b] In the opposite figure :

AB = CB , AD = CD , m ($\angle$ C) = 100°

and m ($\angle$ BDC) = 30° Is $\triangle$ ABD $\equiv$ $\triangle$ CBD ? Why ?

, then find : m ($\angle$ ABD) (Write the steps)

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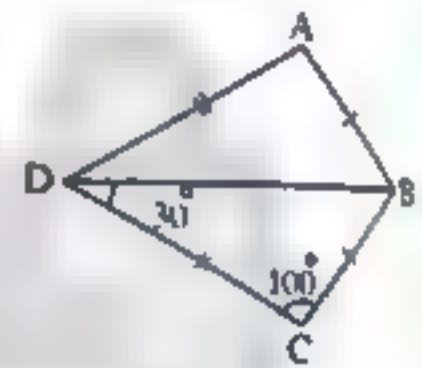
4 [a] In the opposite figure :

m ($\angle$ C) = 100° , m ($\angle$ A) = 30°

, $\overrightarrow{AB}$ // $\overrightarrow{EF}$ // $\overrightarrow{CD}$
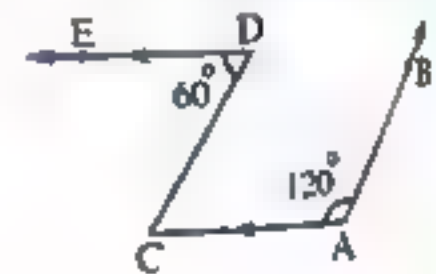
Find by steps : m ($\angle$ AEC)
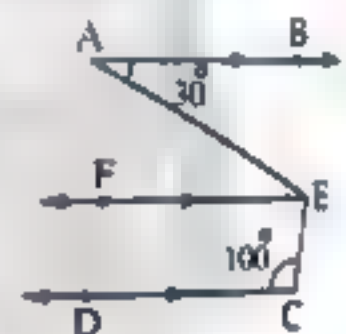
[b] Draw $\angle$ ABC of measure 80° , then using the ruler and compasses bisect $\angle$ B
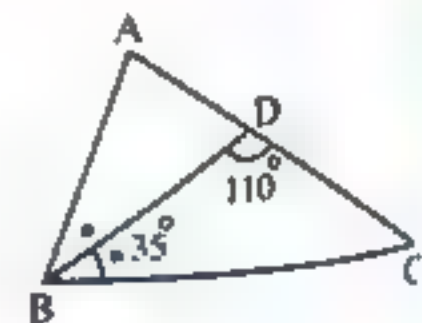
(Don't remove the arcs)

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5 [a] In the opposite figure :

$\overrightarrow{DE}$ // $\overrightarrow{AC}$, m ($\angle$ A) = 120° , m ($\angle$ D) = 60°

1 Find : m ($\angle$ C)

2 Is $\overrightarrow{AB}$ // $\overrightarrow{CD}$? Why ?

[b] In the opposite figure :

$\overrightarrow{BD}$ bisects $\angle$ ABC , m ($\angle$ DBC) = 35°

, m ($\angle$ BDC) = 110°

Find by steps : m ($\angle$ C) and m ($\angle$ A)

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(12) Ismailia Governorate — Directorate of Education Al-Manar Language School

Answer the following questions :

1 Choose the correct answer :

1. If $\triangle ABC \equiv \triangle XYZ$, m $(\angle A)$ + m $(\angle B)$ = 100° , then m $(\angle Z)$ =
   - (a) 50°
   - (b) 80°
   - (c) 90°
   - (d) 100°

2. If $\angle M \equiv \angle N$ and $\angle M$, $\angle N$ are supplementary angles , then m $(\angle M)$ = · · · · · · · ·
   - (a) 180°
   - (b) 45°
   - (c) 360°
   - (d) 90°

3. The sum of the measures of the accumulative angles at a point is · · · · · · · · right angles.
   - (a) 360
   - (b) 2
   - (c) 4
   - (d) 630

4. If two straight lines are parallel to a third straight line , then they are · · · · · · · ·
   - (a) perpendicular.
   - (b) parallel.
   - (c) coincident.
   - (d) intersecting.

5. The measure of the complement of an angle of measure 20° is · · · · · · · · ·
   - (a) 70°
   - (b) 180°
   - (c) 90°
   - (d) 160°

6. The type of the angle of measure 185° is · · · · · · · · · angle.
   - (a) an acute.
   - (b) a reflex.
   - (c) an obtuse.
   - (d) a straight.

2 Complete :

1. If $\triangle ABC \equiv \triangle XYZ$, then AC – XZ = · · · · · · · ·

2. The two adjacent angles formed by intersecting of a straight line and a ray are · · · · · · · ·

3. If a straight line intersects two parallel lines , then each two corresponding angles are · · · · · · · ·

4. Two triangles are congruent if two sides and the · · · · · · · · angle of one of them are congruent to their corresponding parts of the other.

5. The right angle supplements an angle of measure · · · · · · · ·°

3 [a] In the opposite figure :

$\overrightarrow{BA}$ // $\overrightarrow{CD}$, $\overrightarrow{CB}$ // $\overrightarrow{DE}$

, m $(\angle B)$ = 110°

Find : m $(\angle D)$
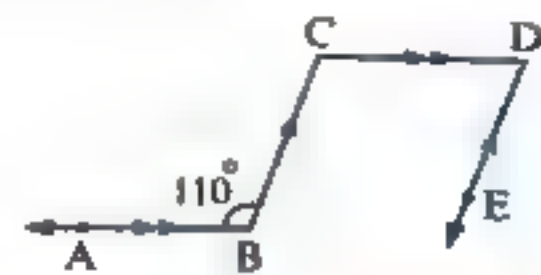
83

Geometry

[b] In the opposite figure :

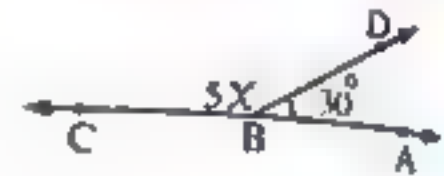$m(\angle A) = m(\angle C) = 90°$

, $AB = BC = 5$ cm. , $AD = 3$ cm.

1　Mention the conditions for ΔABD , ΔCBD to be congruent.

2　Find : The length of $\overline{CD}$

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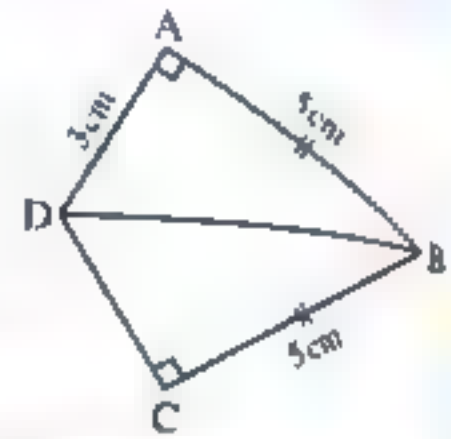
4 **[a]** In the opposite figure :

$\overrightarrow{AC} \cap \overrightarrow{BD} = \{B\}$

, $m(\angle ABD) = 30°$

, $m(\angle DBC) = 5x$

Find in degrees : The value of x

[b] In the opposite figure :

$m(\angle AME) = 90°$, $m(\angle AMB) = 50°$

, $m(\angle BMC) = 60°$, $m(\angle DME) = 40°$

Find : $m(\angle DMC)$

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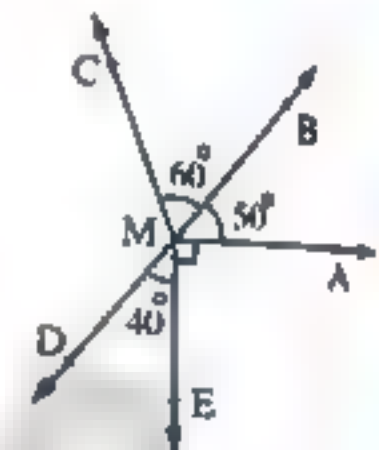
5 **[a]** In the opposite figure :

$\overrightarrow{AF} \parallel \overrightarrow{ED} \parallel \overrightarrow{YX} \parallel \overrightarrow{CB}$

, $AD = DX = XB$

, $AC = 9$ cm.

Find : The length of $\overline{AY}$
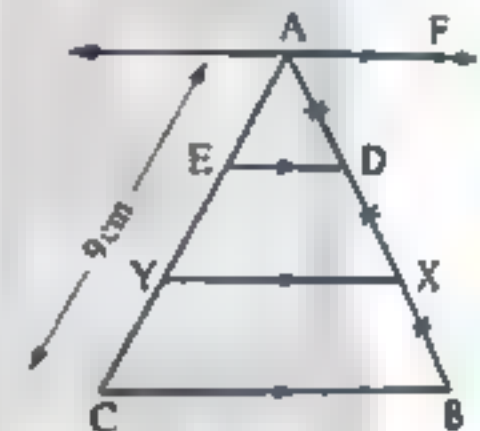
[b] Using the geometric tools , draw $\angle ABC$ whose measure is $120°$, then draw the bisector of $\angle ABC$

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(13) Damietta Governorate
Damietta Education Zone — Inspector of Math

Answer the following questions :

1 Choose the correct answer :

1　The angle of measure $95° \, 60'$ is supplementary to an angle of measure ⋯⋯ ⋯ °

(a) 75　　　　(b) 84　　　　(c) 90　　　　(d) 100

2　The triangle whose perimeter is 12 cm. and the lengths of its two sides are 2 cm. , 5 cm. , is called ⋯⋯⋯⋯

(a) isosceles.　　(b) equilateral.　　(c) right.　　(d) scalene.

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3. The two vertically opposite angles are ···············

   (a) corresponding.   (b) congruent.   (c) supplementary.   (d) alternate.

4. If $\overline{AB}$, $\overline{CD}$ are congruent , then AB − CD = ···· ······

   (a) zero   (b) 1   (c) 2   (d) 3

5. If the two triangles ABC , XYZ are congruent , m (∠ X) = 50° and m (∠ Z) = 60° , then m (∠ B) = ······ ······· .°

   (a) 50   (b) 60   (c) 70   (d) 110

6. If two straight lines are parallel to a third , then they are ···· ··· .

   (a) perpendicular.   (b) parallel.   (c) coincident.   (d) intersecting.

---

2 Complete :

1. The perpendicular straight line to a line segment from its midpoint , is called ··· ··· ···· .

2. If a straight line cuts two parallel straight lines , then each two alternate angles are ···············

3. If m (∠ B) = 115° , then m (reflex ∠ B) = ··········· .°

4. The two adjacent angles resulting from intersection of a ray and a straight line are ···

5. If the triangle ABC ≡ the triangle XYZ , then m (∠ C) = m (∠ ··· ··· ··)

---

3 [a] Draw $\overline{AB}$ of length 6 cm. , then draw its axis of symmetry by using geometrical tools.

     (Don't remove the arcs)

[b] In the opposite figure :

   $\overrightarrow{BA}$ // $\overrightarrow{CD}$ // $\overrightarrow{HO}$

   , m (∠ H) = 30°

   , m (∠ B) = 60°

   Find : m (∠ BCH) , give reason.
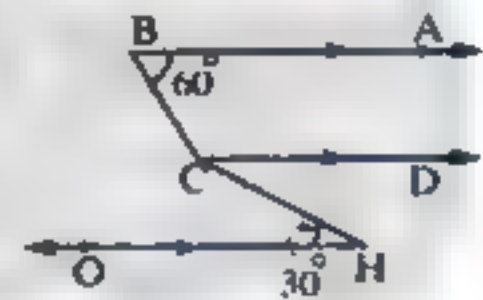
4 [a] In the opposite figure :

   $\overrightarrow{CD}$ // $\overrightarrow{BA}$, m (∠ C) = 90°

   , $\overrightarrow{BH}$ bisects ∠ ABO

   Find : m (∠ OBH) , give reason.

[b] In the opposite figure :

   m (∠ AMB) = 50°

   , m (∠ BMC) = 100°

   , m (∠ CMD) = 110°

   , m (∠ AMD) = 2 x

   Find : The value of x , give reason.

85
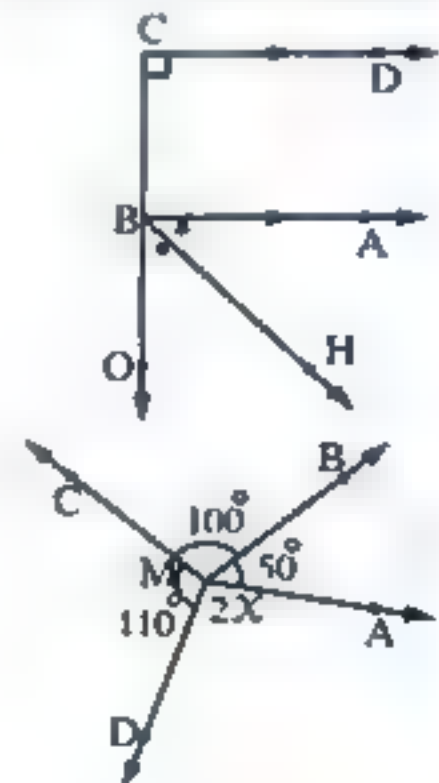
Geometry

5 [a] Mention two cases of congruency of two triangles.
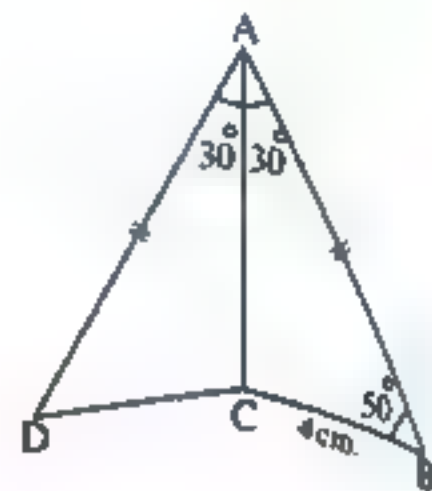
[b] In the opposite figure :

If AB = AD , BC = 4 cm.

, m (∠ B) = 50°

, m (∠ BAC) = m (∠ DAC) = 30°

Are the two triangles BAC and DAC congruent ?

Write the conditions and the results.

, then find : m (∠ D) , the length of $\overline{CD}$

(14) Beni Suef Governorate · Directorate of Official Language Schools

Answer the following questions :

1 Choose the correct answer :

1 Two complementary angles are two angles whose sum of their measures is ··· ··· ·· ··

(a) 45°   (b) 90°   (c) 100°   (d) 180°

2 In the opposite figure :

If $\overrightarrow{AB} \cap \overrightarrow{CD} = \{M\}$, m (∠ AMD) = 150°

and m (∠ CMB) = 3 X , then the value of X = ··· ·· ·

(a) 25°   (b) 50°   (c) 100°   (d) 150°
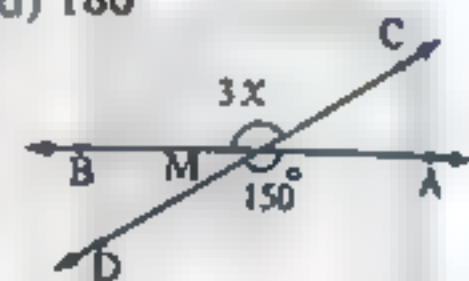
3 If △ ABC ≡ △ XYZ , then AC = ·· · · ··

(a) BC   (b) YZ   (c) XZ   (d) XY

4 If two straight lines are parallel to a third straight line , then these two straight lines are ············· to each other.

(a) intersecting   (b) perpendicular   (c) coincident   (d) parallel

5 The angle of measure 179° is ············· angle.

(a) an acute   (b) a right   (c) an obtuse   (d) a straight

6 $\overline{AB}$ ············· $\overrightarrow{AB}$

(a) ∈   (b) ∉   (c) ⊂   (d) ⊄

2 Complete :

1 The reflex angle is the angle whose measure is more than ··· ·· ······ ° and less than ·············°

2 Two triangles are congruent if two angles and ·············

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₃ If $\angle A \cong \angle B$ and m $(\angle A) = 50°$, then m $(\angle B) = $ ....°

₄ If a straight line intersects two parallel straight lines , then every two interior angles on one side of the transversal are ....

₅ In $\triangle ABC$, if m $(\angle A) = 40°$ and m $(\angle B) = 80°$, then m $(\angle C) = $ ....°

3 [a] Using the geometric instruments , draw $\angle ABC$ of measure 120° , then draw $\overrightarrow{BF}$ to bisect the angle.

(Don't remove the arcs)

[b] In the opposite figure :

If $B \in \overleftrightarrow{AC}$

, m $(\angle DBC) = 130°$

and $\overrightarrow{BA}$ bisects $\angle DBE$

, find : m $(\angle ABD)$ and m $(\angle DBE)$ (Give reason)
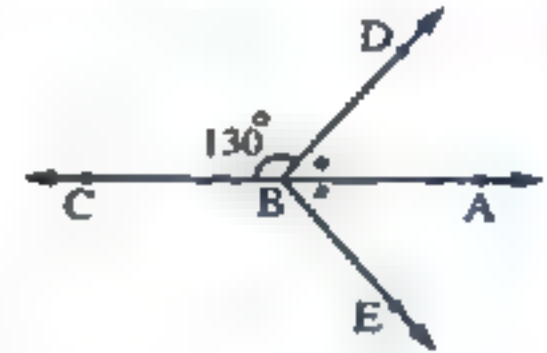
4 [a] In the opposite figure :

$AD = DC$, $AB = 7$ cm.

and m $(\angle ADB) = $ m $(\angle BDC) = 40°$

1 Prove that : $\triangle ABD \equiv \triangle CBD$

2 Find : The length of $\overline{BC}$ (Give reason)
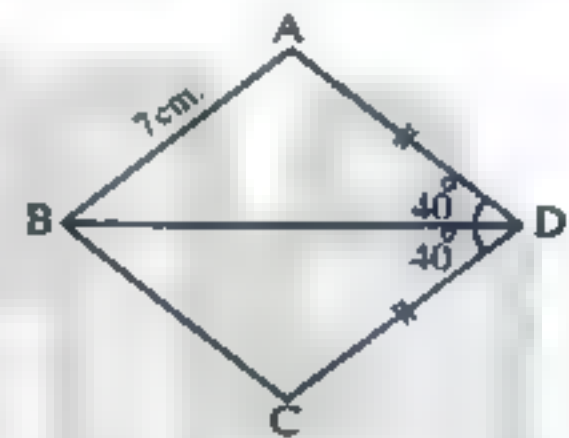
[b] In the opposite figure :

m $(\angle BAD) = $ m $(\angle BCD) = 90°$

and $AB = DC$

Is $\triangle ABD \equiv \triangle CDB$? Why ?
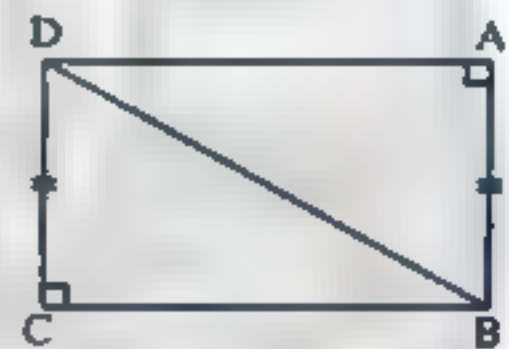
5 [a] In the opposite figure :

$\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $\overleftrightarrow{DE} \parallel \overleftrightarrow{CA}$

and m $(\angle EDC) = 70°$

Find : m $(\angle DCA)$ and m $(\angle BAF)$ (Give reason)
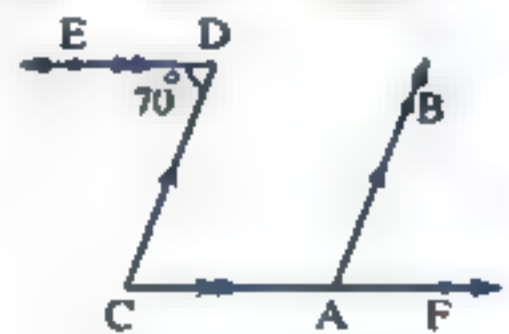
[b] In the opposite figure :

$\overleftrightarrow{AB} \parallel \overleftrightarrow{CD} \parallel \overleftrightarrow{EF} \parallel \overleftrightarrow{XY}$, $AC = 5$ cm.

and $BD = DF = FX$

Find : The length of $\overline{AY}$ (Give reason)

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Geometry
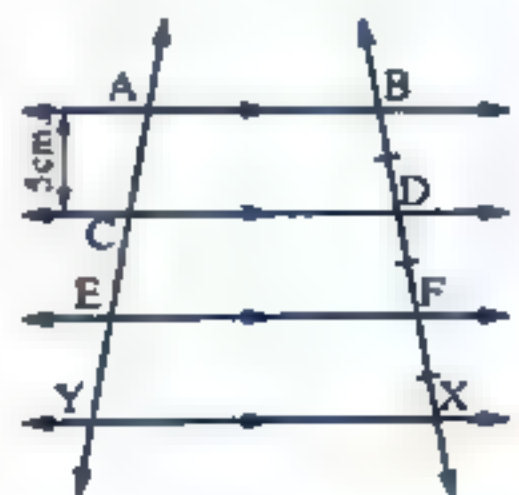
(15) South Sinai Governorate — Tur Sinai Educational Zone

Answer the following questions :

**1** Choose the correct answer :

1 The angle whose measure is 30° complements the angle whose measure is ....°

   (a) 90   (b) 180   (c) 60   (d) 150

2 The sum of measures of the two supplementary angles equals ....°

   (a) 90   (b) 100   (c) 360   (d) 180

3 If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) = 60°$, $m(\angle B) = 40°$, then $m(\angle Z) =$ ....°

   (a) 100   (b) 70   (c) 80   (d) 90

4 If $m(\angle X) = 100°$, then $m(\text{reflex} \angle X) =$ ....°

   (a) 360   (b) 180   (c) 260   (d) 80

5 If two straight lines intersect , then each two .... angles are equal in measure.

   (a) corresponding   (b) alternate   (c) adjacent   (d) vertically opposite

6 The sum of measures of two adjacent angles formed by the intersection of a straight line and a ray with a starting point on this straight line equals ....°

   (a) 90   (b) 180   (c) 270   (d) 360

2 Complete :

1 The two perpendicular lines on a third are ....

2 A circle of radius length 7 cm. , then its area = ... cm² $\left(\text{where } \pi = \dfrac{22}{7}\right)$

3 The two right-angled triangles are congruent if .... , ... are congruent to their corresponding parts in the other triangle.

4 If the two lines L_1 , L_2 are two parallel lines , then $L_1 \cap L_2 =$ ....

5 The measure of each angle of the two equal complementary angles equals ....°

3 [a] In the opposite figure :

   $m(\angle AMB) = 110°$, $m(\angle AMD) = 90°$

   , $m(\angle DMC) = 40°$

   Find : $m(\angle BMC)$

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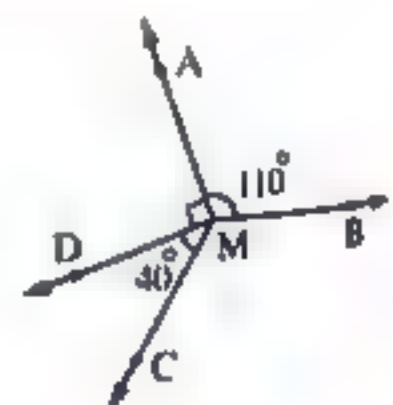
Final Examinations

[b] In the opposite figure :

$m (\angle A) = m (\angle C) = 90°$

, $AD = 3$ cm. , $m (\angle ABD) = 30°$, $AB = BC$

Write the conditions of congruency

of the two triangles ABD , CBD

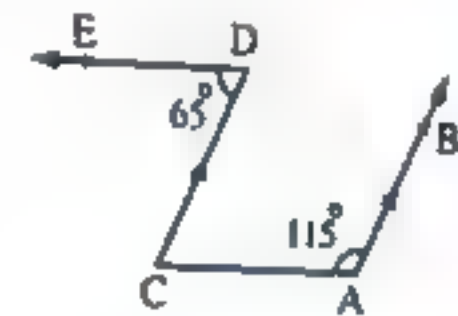, then find : The length of $\overline{CD}$ and $m (\angle DBC)$
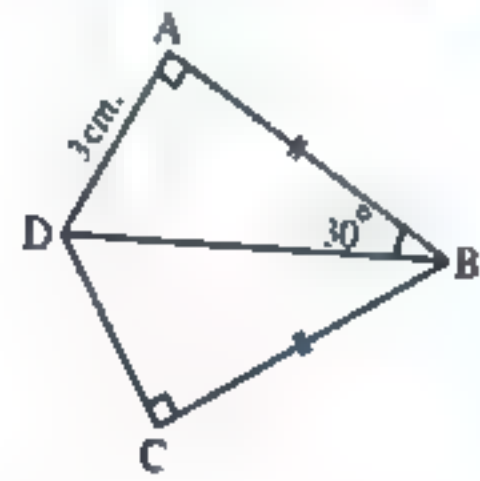
[a] In the opposite figure :

$\overrightarrow{AB}$ // $\overrightarrow{CD}$, $m (\angle A) = 115°$

, $m (\angle D) = 65°$

Find : $m (\angle C)$

Is $\overrightarrow{AC}$ // $\overrightarrow{DE}$? Give reason.

[b] In the opposite figure :

$\overline{AC} \cap \overline{BD} = \{E\}$

, $AE = ED$, $m (\angle A) = m (\angle D)$

Write the conditions of congruency of the two triangles.
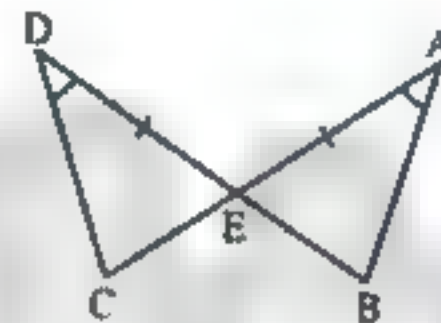
5 **[a]** By using your geometric instruments , draw $\angle ABC$ whose measure is 80°

, then draw $\overrightarrow{BD}$ to bisect the angle.

[b] In the opposite figure :

$\overrightarrow{AB}$ // $\overrightarrow{CD}$ // $\overrightarrow{EF}$

, $AC = CE$, $BF = 10$ cm.

Find by reason : The length of $\overline{BD}$

Final Examinations 2020

on Geometry

Answer the following questions :

1 Choose the correct answer :

[1] If ∠ X ≡ ∠ Y and ∠ X , ∠ Y are supplementary angles , then m (∠ X) = ············

(a) 45°　　　　(b) 90°　　　　(c) 135°　　　　(d) 180°

[2] If two straight lines are perpendicular to a third
, then the two straight lines are ···············

(a) perpendicular.　(b) parallel.　　(c) intersecting.　　(d) congruent.

[3] If △ ABC ≡ △ XYZ , m (∠ A) + m (∠ B) = 100° , then m (∠ Z) = ···········

(a) 90°　　　　(b) 100°　　　　(c) 50°　　　　(d) 80°

[4] From the opposite figure :

$x = $ ···············

(a) 60°

(b) 140°

(c) 30°

(d) 180°

[5] In the opposite figure :

$\overrightarrow{AF} \parallel \overline{XD} \parallel \overline{YE} \parallel \overline{CB}$

, AX = XY = YC , then AD : AB = ···············

(a) 1 : 1　　　　(b) 1 : 2　　　　(c) 1 : 3

[6] If △ ABC ≡ △ LMN , then m (∠ ACB) = m (∠ ···········)

(a) LMN　　　　(b) MLN　　　　(c) LNM　　　　(d) NLM
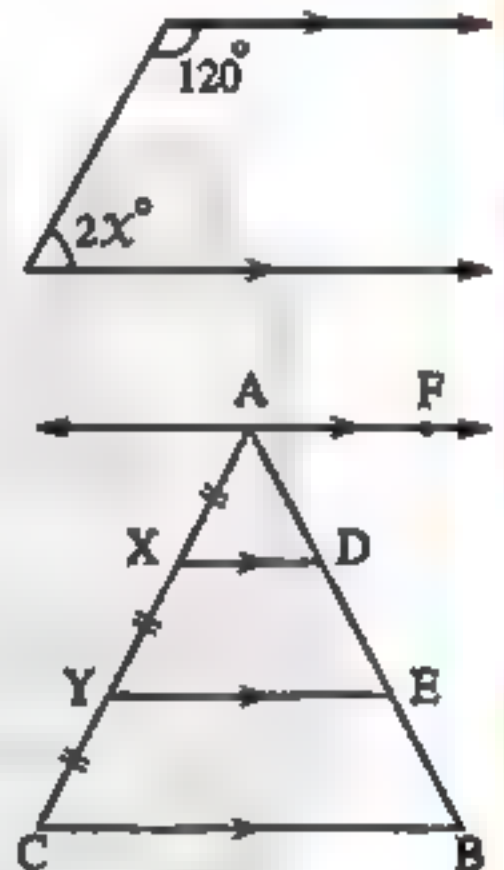
2 Complete :

[1] If the ratio between the measures of two adjacent supplementary angles is 1 : 2
, then the measure of the largest angle is ···············°

[2] If m (∠ A) = 120° , then m (reflex ∠ A) = ···············°

[3] Two triangles are congruent if each side of ···············

[4] From the opposite figure :
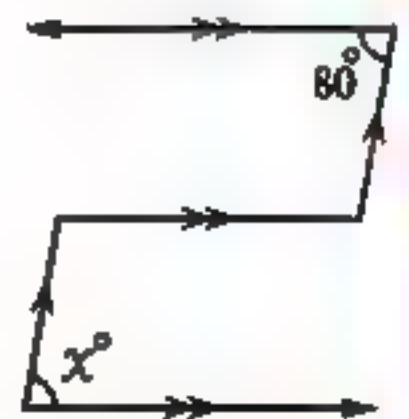
$x = $ ···············°

5 From the opposite figure :

$m (\angle BMC) = \ldots\ldots\ldots°$
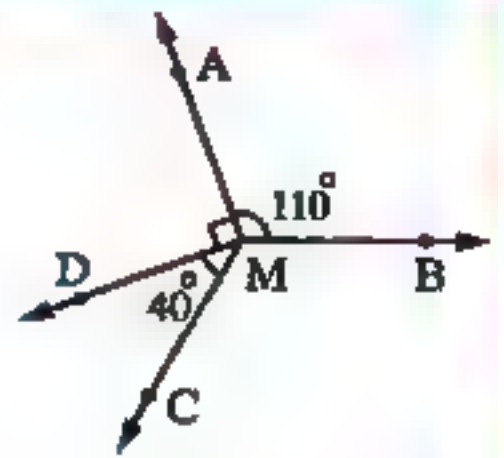
3 **[a]** In the opposite figure :

$AB = BC$, $AD = CD$

, $m (\angle C) = 80°$

, $m (\angle BDC) = 40°$

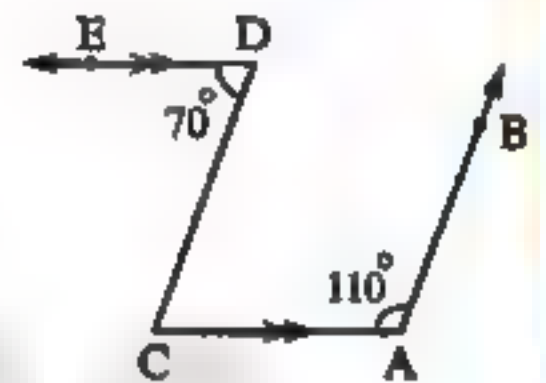Prove that : $\triangle CBD \equiv \triangle ABD$ and find : $m (\angle ABD)$
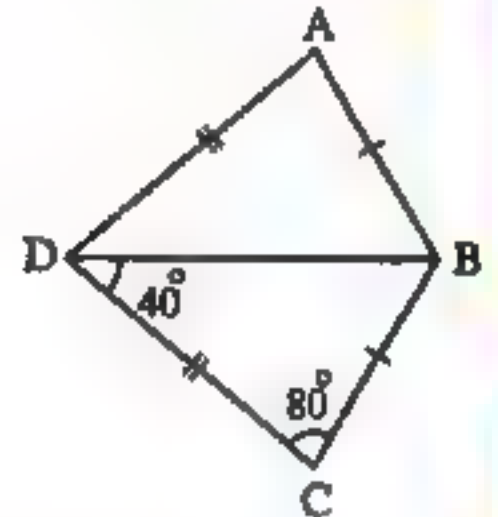
[b] In the opposite figure :

$\overrightarrow{DE} \parallel \overrightarrow{AC}$, $m (\angle A) = 110°$

, $m (\angle D) = 70°$

Prove that : $\overrightarrow{AB} \parallel \overrightarrow{CD}$

4 **[a]** In each of the following figures , find the value of x and give reason to your answer :
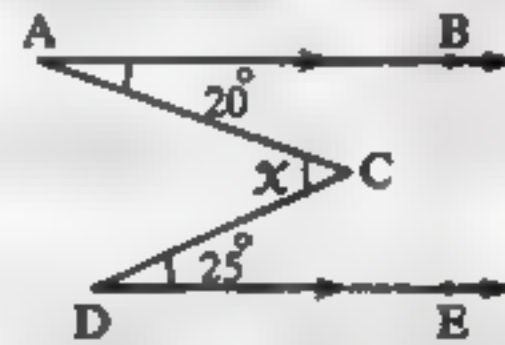
Fig. (1)   Fig. (2)

[b] Draw any acute-angled triangle , construct the perpendicular bisector of each side.

Do the perpendicular bisectors intersect at one point ?

5 **[a]** From the opposite figure :

Prove that :

The two triangles LMN and NZL are congruent

, then find : $m (\angle LNZ)$
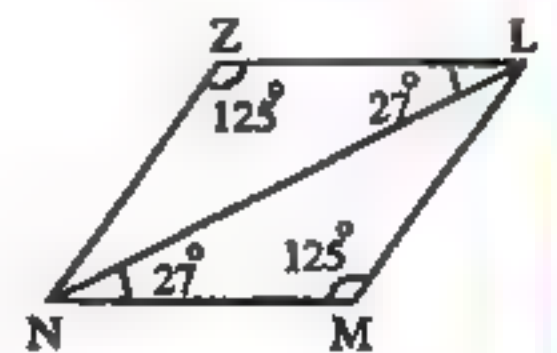
[b] In the opposite figure :

$\overrightarrow{AB} \parallel \overrightarrow{CE}$, $m (\angle BAD) = 120°$

, $m (\angle BCD) = 30°$

, $m (\angle BAD)$ is four times $m (\angle FDE)$

Prove that : $\overrightarrow{DF} \parallel \overrightarrow{BC}$ and $\overrightarrow{DF} \perp \overrightarrow{AD}$
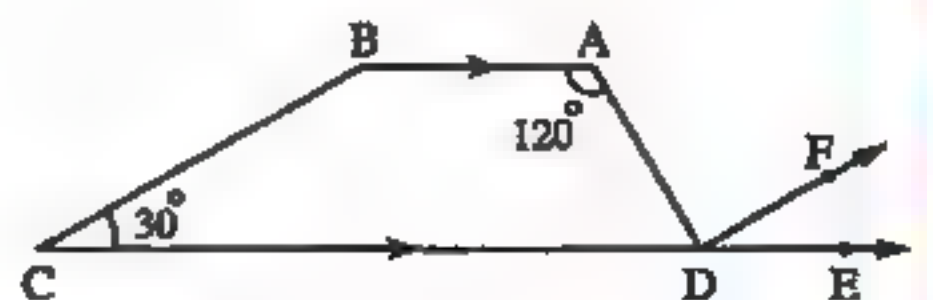
2 Cairo Governorate

El-Zeitoun Educational Zone
El-Ma'aref Modern Language School

Answer the following questions :

1 Choose the correct answer :

1 If two straight lines are perpendicular to a third
, then the two straight lines are ···············

(a) perpendicular.　　(b) parallel.　　(c) congruent.　　(d) intersecting.

2 If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) + m(\angle B) = 100°$, then $m(\angle Z) = $ ···············

(a) 50°　　　　(b) 90°　　　　(c) 80°　　　　(d) 100°

3 The image of the point $(-3 , 5)$ by translation of 3 units in the negative direction of the y-axis is ···············

(a) $(-3 , 2)$　　(b) $(-3 , 8)$　　(c) $(-6 , 5)$　　(d) $(0 , 8)$

4 In the opposite figure :

$\overrightarrow{BA} \cap \overrightarrow{CD} = \{C\}$

, $m(\angle DCA) = 80°$

, then $X = $ ···············

(a) 20°　　　　(b) 25°　　　　(c) 30°　　　　(d) 100°

5 If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) = 50°$, $m(\angle Y) = 60°$
, then $m(\angle C) = $ ···············

(a) 50°　　　　(b) 60°　　　　(c) 70°　　　　(d) 80°

6 The measure of the supplement of the angle whose measure is 30° equals ···············

(a) 60°　　　　(b) 180°　　　　(c) 90°　　　　(d) 150°
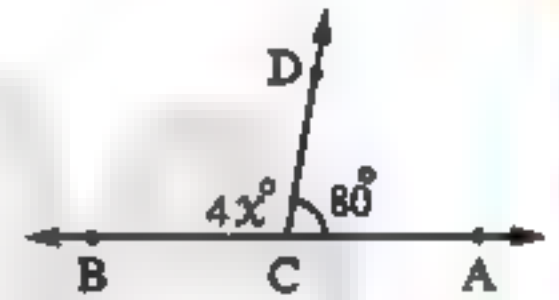
2 Complete the following :

1 If a straight line intersects two parallel straight lines
, then each two corresponding angles are ···············

2 In the opposite figure :

$X = $ ···············

3 If $\angle X$ complements $\angle Y$ and $\angle X \equiv \angle Y$
, then $m(\angle X) = $ ···············°

4 The perimeter of the opposite figure is ··············· cm.

5 The two right-angled triangles are congruent if ···············
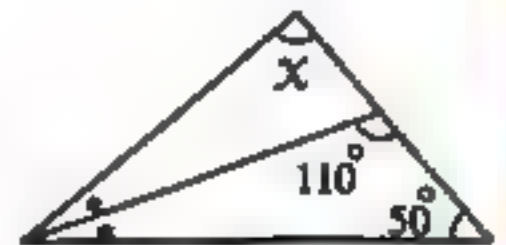
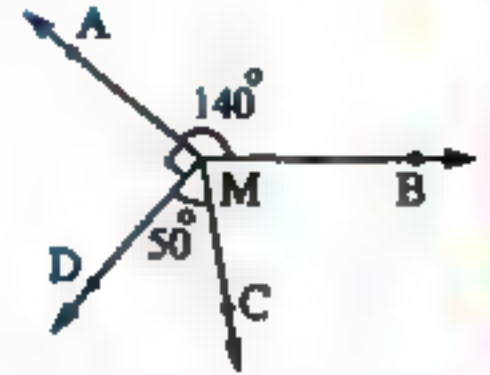**3** **[a]** From the opposite figure , find :

m (∠ ECF)

Give the reason.
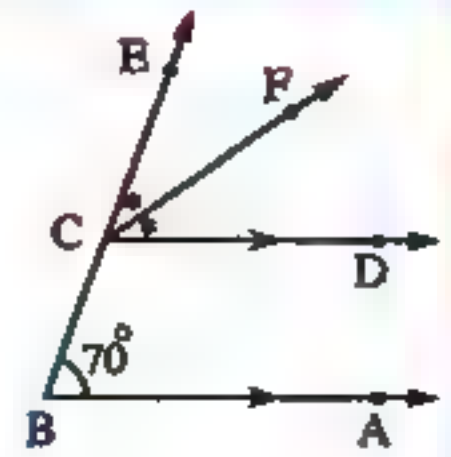
[b] From the opposite figure , find :

m (∠ BMC)

With steps.

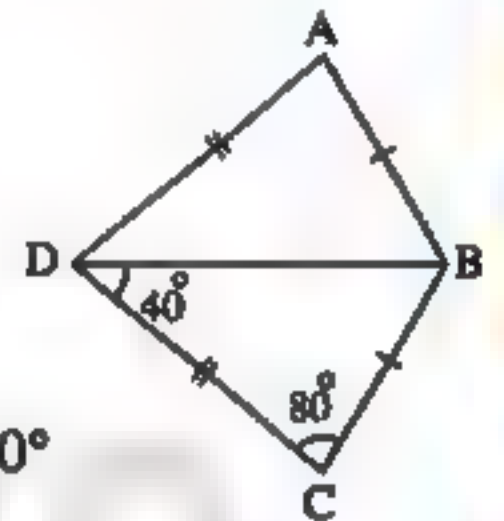**4** **[a]** In the opposite figure :

AB = BC , AD = CD , m (∠ C) = 80° , m (∠ BDC) = 40°

① Prove that : △ CBD ≡ △ ABD

② Find : m (∠ ABD)

[b] By using your geometric instruments , draw ∠ ABC of measure 110° , then draw $\overrightarrow{BF}$ to bisect the angle.

5 **[a]** From the opposite figure :

Prove that : ① △ ROP ≡ △ SPO

② m (∠ RPS) = m (∠ SOR)

[b] In the opposite figure :

If $\overrightarrow{AB}$ // $\overrightarrow{CD}$, m (∠ D) = 65° , m (∠ A) = 115°

, then prove that :

$\overrightarrow{AC}$ // $\overrightarrow{DE}$
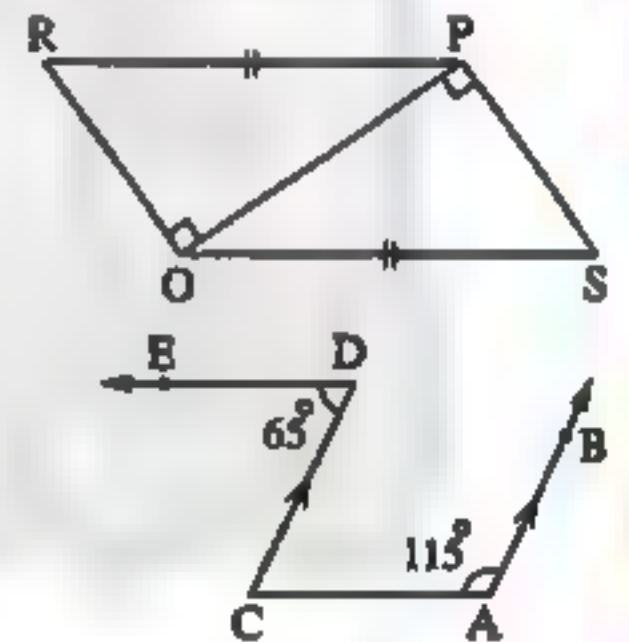
3 Cairo Governorate   Zone Educative Abdine   Lycee Bab El-Louk

Answer the following questions :

1 Choose the correct answer :

① If ∠ X complements ∠ Y and ∠ X = ∠ Y , then m (∠ X) = ···············

(a) 45°   (b) 90°   (c) 180°   (d) 360°

② If △ ABC ≡ △ XYZ , m (∠ A) + m (∠ B) = 100° , then m (∠ Z) = ···············

(a) 50°   (b) 80°   (c) 90°   (d) 100°

3 If two straight lines are perpendicular to a third , then the two straight lines are ·············

(a) perpendicular. (b) parallel. (c) congruent. (d) intersecting.

4 The sum of the measures of the accumulative angles at a point is ·············

(a) 630° (b) 180° (c) 90° (d) 360°

5 The measure of the supplement of the angle whose measure is 30° equals ·············

(a) 60° (b) 180° (c) 150° (d) 90°

6 The angle whose measure is more than 90° and less than 180° is ············· angle.

(a) an obtuse (b) an acute (c) a right (d) a straight

2 Complete the following :

1 The two triangles are congruent if two sides and ············· are congruent with the corresponding parts of the other.

2 If $\triangle ABC \equiv \triangle XYZ$, then $m(\angle Z) = m(\angle \cdots)$

3 The sum of the measures of the accumulative angles at a point equals ·············°

4 If $m(\angle A) = 110°$, then $m(\text{reflex} \angle A) = \cdots$°

5 The two adjacent angles formed by intersecting of a straight line and a ray are ·············

3 [a] In the opposite figure :

$\overrightarrow{AB} // \overrightarrow{CD} // \overrightarrow{EF}$, $m(\angle A) = 45°$

, $m(\angle E) = 130°$
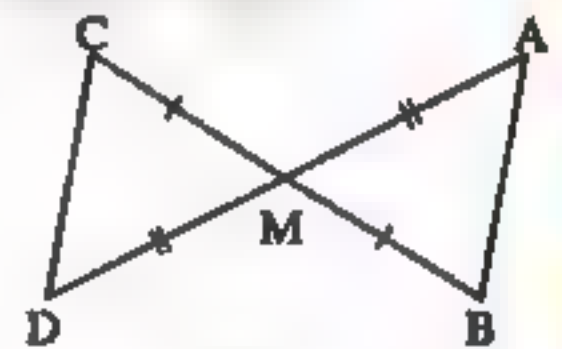
Find : $m(\angle ACE)$
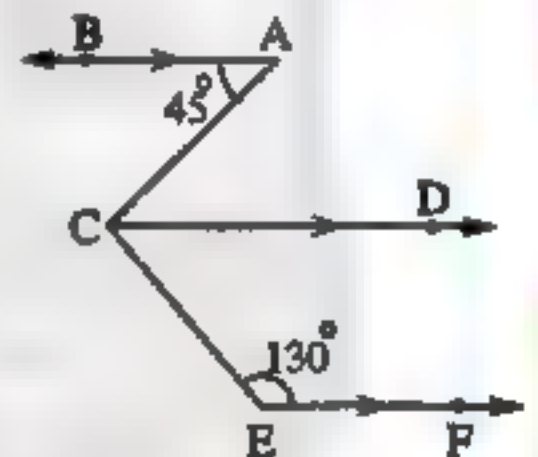
[b] In the opposite figure :

$\overline{AD} \cap \overline{BC} = \{M\}$, $BM = MC$, $AM = MD$

, write the conditions
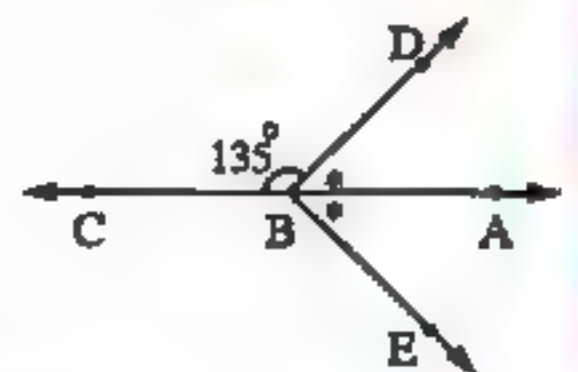
for $\triangle AMB$, $\triangle DMC$ to be congruent.

4 [a] In the opposite figure :

If $B \in \overrightarrow{AC}$, $m(\angle DBC) = 135°$

and $\overrightarrow{BA}$ bisects $\angle DBE$

Find : **1** $m(\angle ABD)$ **2** $m(\angle DBE)$ **3** $m(\angle CBE)$

[b] By using your geometric instruments , draw $\angle ABC$ whose measure is 130° , then draw $\overrightarrow{BF}$ to bisect the angle.

5 **[a]** In the opposite figure :

$\overleftrightarrow{AC} \cap \overleftrightarrow{BD} = \{B\}$

, m (∠ ABD) = 60°

, m (∠ DBC) = 4 x°

Find in degrees : The value of x

[b] In the opposite figure :

$\overrightarrow{BD}$ bisects ∠ ABC , m (∠ DBC) = 35°

, m (∠ BDC) = 120°

Find : m (∠ A) in degrees.
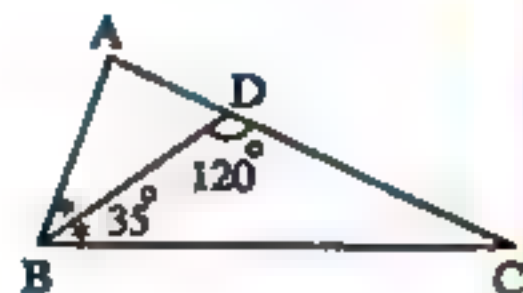
4   Giza Governorate

El-Haram Zone
El-Maarefa Exp. Lang. School

Answer the following questions :

1 **Choose the correct answer :**

1 If △ ABC ≡ △ XYZ , m (∠ A) = 50° , m (∠ B) = 60° , then m (∠ Z) = ·············

(a) 50°   (b) 60°   (c) 70°   (d) 120°

2 The sum of measures of the accumulative angles at a point equals ·············

(a) 180°   (b) 630°   (c) 360°   (d) 603°

3 The angle whose measure is 78° 60́ , is ············· angle.

(a) a right   (b) an acute   (c) an obtuse   (d) a straight

4 If ∠ A ≡ ∠ B and ∠ A complements ∠ B , then m (∠ A) = ·············

(a) 45°   (b) 90°   (c) 100°   (d) 180°

5 If two straight lines are parallel to a third straight line , then they are ·············

(a) perpendicular.   (b) parallel.   (c) congruent.   (d) intersecting.

6 The measure of the supplement of an angle of measure 35° equals ·············

(a) 65°   (b) 165°   (c) 180°   (d) 145°

2 **Complete the following :**

1 The perpendicular bisector of a line segment is called ·············

2 If m (∠ A) = 160° , then m (reflex ∠ A) = ·············°

3 The two adjacent angles formed by a straight line and a ray with a start point on this straight line are ·············

4 If two straight lines intersect , then each two vertically opposite angles are ···············

5 If $L_1 \perp L_2$ and $L_2 /\!/ L_3$, then L_1 ··············· L_3

3 [a] In the opposite figure :

$\overrightarrow{AB} \cap \overrightarrow{CD} = \{M\}$, $m (\angle BME) = 80°$

, $\overrightarrow{MC}$ bisects $\angle AME$
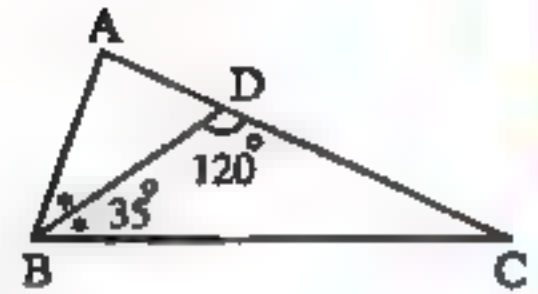
Find : 1 $m (\angle AMC)$ 2 $m (\angle BMD)$
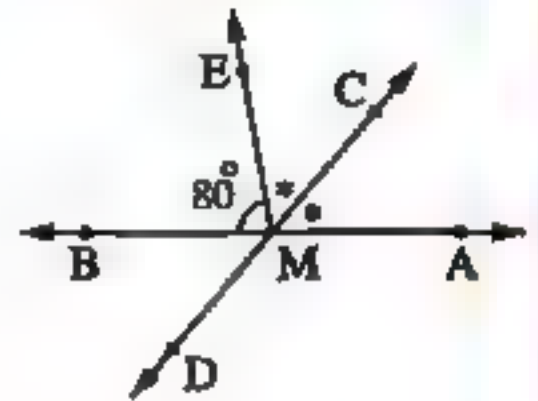
[b] In the opposite figure :

$\overrightarrow{BD}$ bisects $\angle ABC$, $m (\angle DBC) = 35°$

, $m (\angle BDC) = 120°$

Find : $m (\angle A)$ in degrees.

4 [a] In the opposite figure :

$\overrightarrow{AB} /\!/ \overrightarrow{DC}$, $m (\angle EBC) = 53°$, $m (\angle D) = 137°$

Is $\overrightarrow{BC} /\!/ \overrightarrow{AD}$? "State the reason"

[b] In the opposite figure :

$\overrightarrow{AB} /\!/ \overrightarrow{CD}$, $\overrightarrow{CE}$ bisects $\angle ACD$

, $m (\angle DCE) = 35°$

Find : $m (\angle A)$
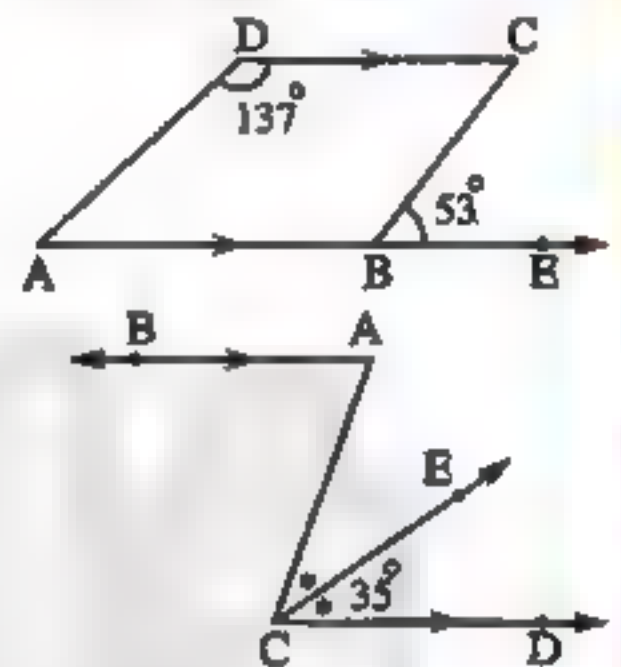
5 [a] Draw $\angle ABC$ of measure $85°$, then bisect it. (Don't remove the arcs)

[b] In the opposite figure :

$AM = CM$

, $BM = DM$

Show with the reason if $\triangle ABM \equiv \triangle CDM$ or not.

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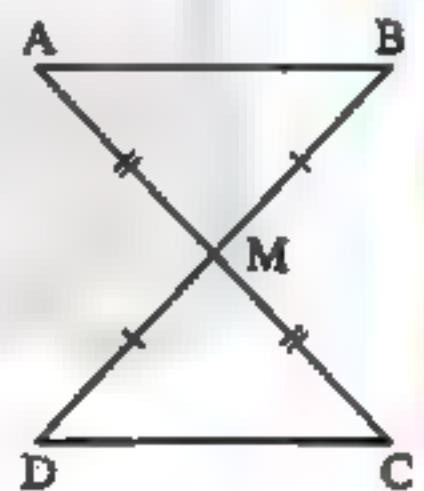
5 **Giza Governorate**   Boulaq El-Dakrour Dire. of Edu.
Dar El-Hanan Lang. Sch. for Girls

Answer the following questions :

1 Choose the correct answer :

1 The supplement of the angle whose measure is $30°$ is an angle whose measure is ···············

(a) $60°$ (b) $180°$ (c) $150°$ (d) $90°$

2 If $\triangle ABC \equiv \triangle XYZ$ and $m (\angle A) + m (\angle B) = 110°$, then $m (\angle Z) = $ ···············

(a) $50°$ (b) $60°$ (c) $70°$ (d) $80°$

③ **From the opposite figure :**

The value of $X =$ ....

(a) 30°　　　　　　　　　　　(b) 15°

(c) 45°　　　　　　　　　　　(d) 18°
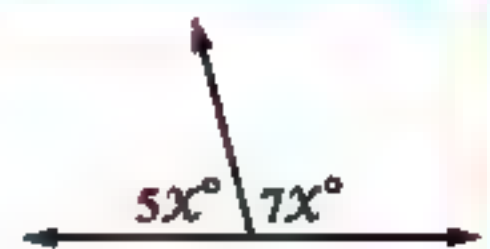
④ **From the opposite figure :**

$X =$ ....
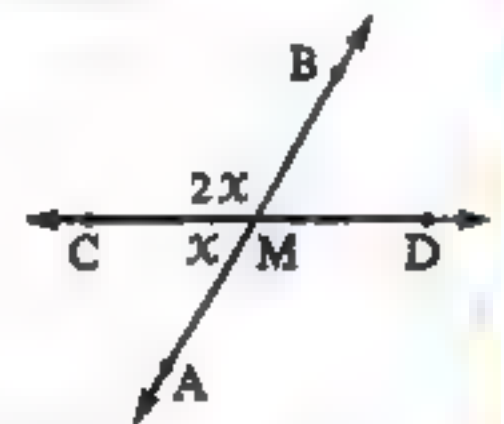
(a) 20°　　(b) 30°　　(c) 40°　　(d) 120°
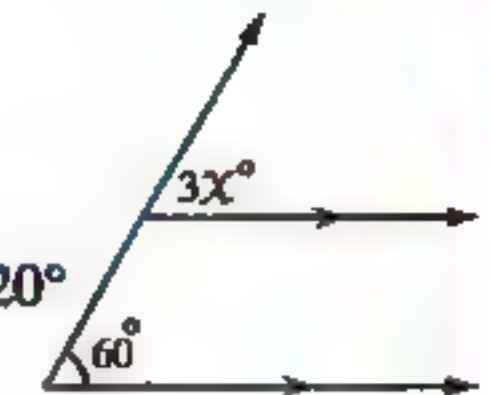
⑤ **The angle of measure 179° is** ....

(a) acute.　　(b) obtuse.　　(c) right.　　(d) straight.

⑥ **In the opposite figure :**

$\overleftrightarrow{AB} \cap \overleftrightarrow{CD} = \{M\}$, then $X =$ ....

(a) 30°　　　　　　　　　　　(b) 60°

(c) 45°　　　　　　　　　　　(d) 90°

---

2 **Complete the following :**

① The complement of an angle of measure 65° is an angle of measure ....°

② If m $(\angle B) = 160°$, then m (reflex $\angle B$) = ...°

③ **In the opposite figure :**

$\overleftrightarrow{CD} /\!/ \overleftrightarrow{BA}$, $\overleftrightarrow{DE} /\!/ \overleftrightarrow{CB}$
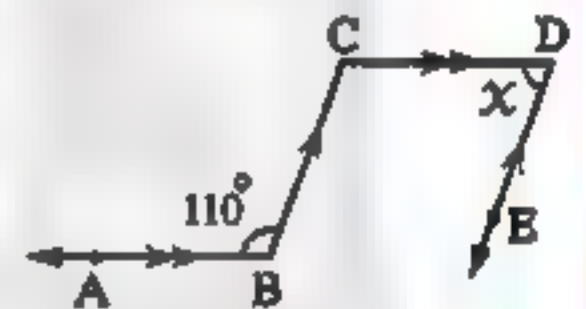
, then $X =$ ....°

④ **In the opposite figure :**

If $\overleftrightarrow{MB} \cap \overleftrightarrow{AC} = \{M\}$, m $(\angle AMB) = 60°$

, then the value of X equals ....°
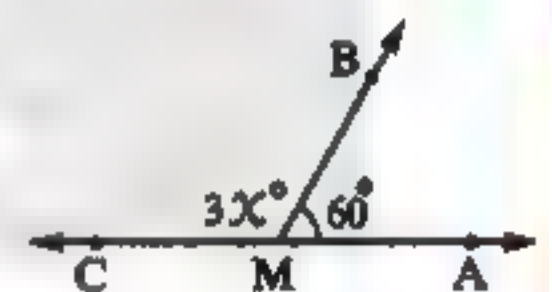
⑤ **In the opposite figure :**

$\overleftrightarrow{AB} /\!/ \overleftrightarrow{DE}$

, then $X + y + z =$ ....
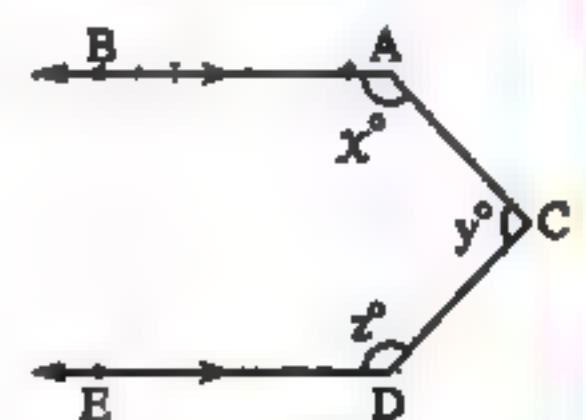
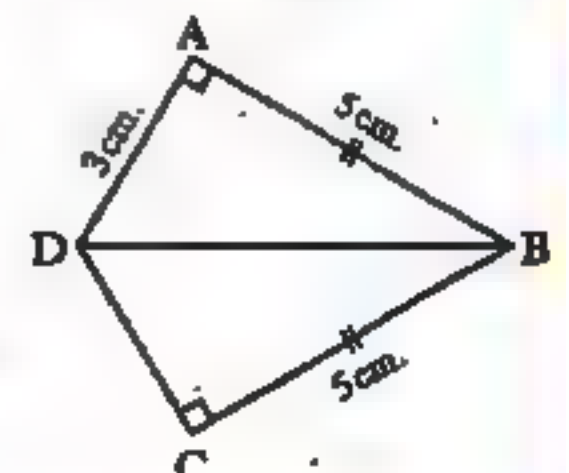**3** **[a] In the opposite figure :**

m $(\angle A) =$ m $(\angle C) = 90°$

, AB = BC = 5 cm. , AD = 3 cm.

① Mention the conditions for $\triangle ABD$, $\triangle CBD$ to be congruent.

② Find : The length of $\overline{CD}$

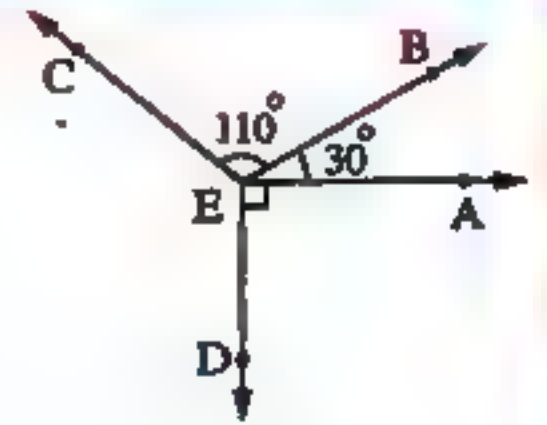**[b]** In the opposite figure :

m (∠ AEB) = 30° , m (∠ BEC) = 110°

, m (∠ AED) = 90°

Find : m (∠ DEC)

4 **[a]** In the opposite figure :

B ∈ $\overleftrightarrow{AC}$, m (∠ FBC) = 30°

, m (∠ ABD) = m (∠ DBE) = m (∠ EBF)

Find : m (∠ ABE)
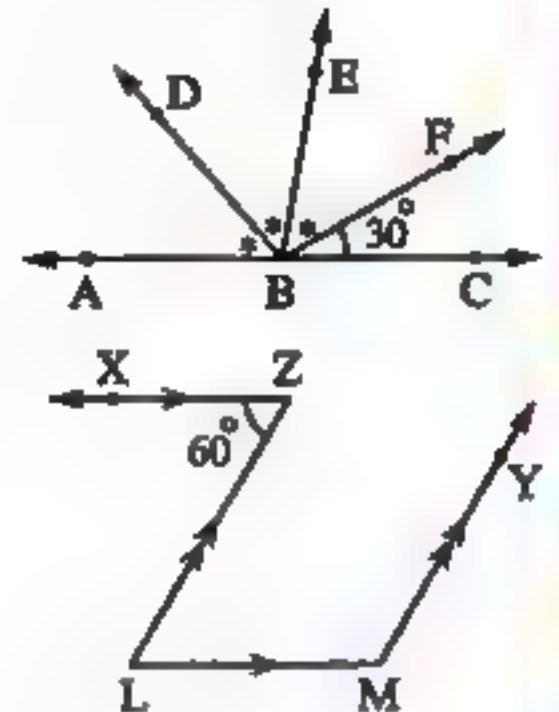
[b] In the opposite figure :

$\overrightarrow{ZX}$ // $\overrightarrow{LM}$, $\overrightarrow{LZ}$ // $\overrightarrow{MY}$, m (∠ Z) = 60°

Find : **1** m (∠ L)   **2** m (∠ M)

5 **[a]** In the opposite figure :

$\overrightarrow{BD}$ bisects ∠ ABC , m (∠ DBC) = 35°

, m (∠ BDC) = 120°

Find : m (∠ A)
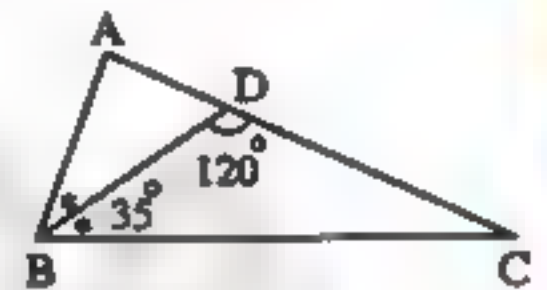
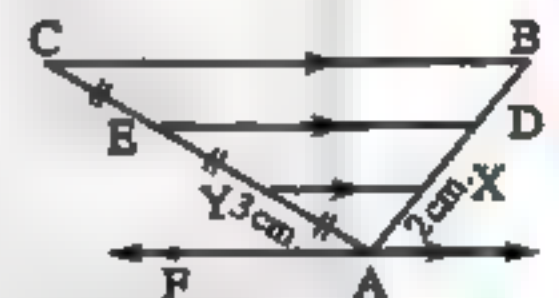**[b]** In the opposite figure :

$\overleftrightarrow{AF}$ // $\overleftrightarrow{XY}$ // $\overleftrightarrow{DE}$ // $\overleftrightarrow{BC}$ and AY = YE = EC , AY = 3 cm.

, AX = 2 cm. and the perimeter of ∆ ABC = 23 cm.

Find : The length of $\overline{BC}$

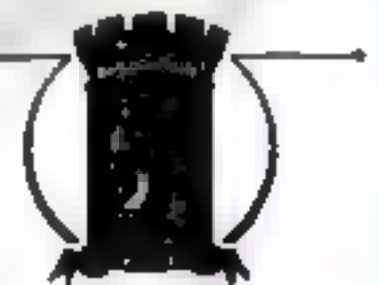**[c]** Draw ∠ ABC of measure 100° and bisect it.   (Don't remove the arcs)

6 Alexandria Governorate   East Educational Zone
Sidi Gaber Lang. Sch. for boys

Answer the following questions :

1 **Complete the following :**

1 If m (∠ A) = 120° , then the measure of the reflex angle of ∠ A = ·············°

2 The two adjacent angles formed by intersecting a straight line and a ray are ···············

3 If ∠ A supplements ∠ B and ∠ A supplements ∠ C

, then ∠ B and ∠ C are ···············

4 Two triangles are congruent if the lengths of two sides and the measure of ··········· are
congruent with the corresponding parts of the other.

5 If ∠ A and ∠ B are complementary angles , m (∠ A) = 2 m (∠ B)
, then m (∠ B) = ...°

2 Choose the correct answer :

1 If two straight lines are perpendicular to a third , then the two straight lines
are ....

(a) perpendicular.   (b) congruent.   (c) parallel.   (d) intersecting.

2 The axis of symmetry of a line segment is ....

(a) perpendicular from its midpoint.   (b) equal to it.

(c) parallel to it.   (d) congruent to it.

3 In the opposite figure :

X = ...°

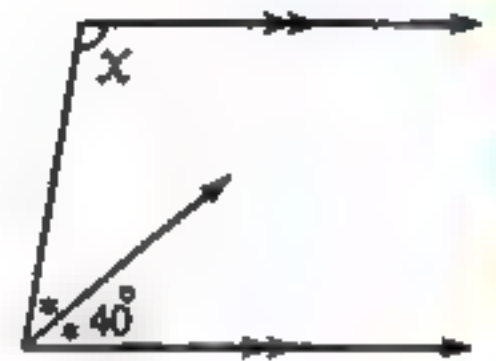(a) 80   (b) 120

(c) 100   (d) 180

4 In the opposite figure :

m (∠ CBD) = ...°

(a) 100   (b) 120

(c) 140   (d) 240

5 If △ ABC ≡ △ XYZ   ,   m (∠ Z) = 55° , then m (∠ A) + m (∠ B) = ...°

(a) 110   (b) 115   (c) 120   (d) 125

3
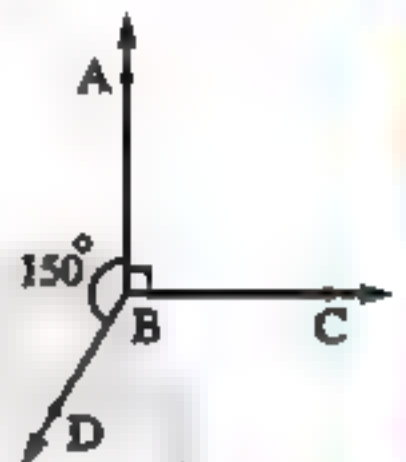
[a] In the opposite figure :

$\overrightarrow{AB} \cap \overrightarrow{CE} = \{M\}$, $\overrightarrow{MD} \perp \overrightarrow{MC}$, $\overrightarrow{MB}$ bisects ∠ DME

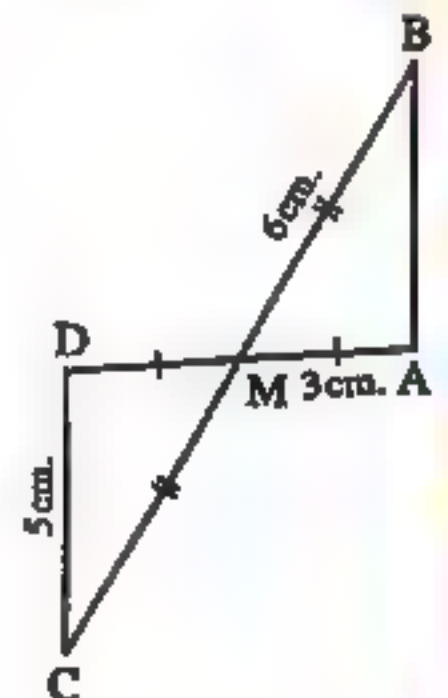Find showing the reason :   1 m (∠ BME)   2 m (∠ AMC)

3 m (∠ AME)
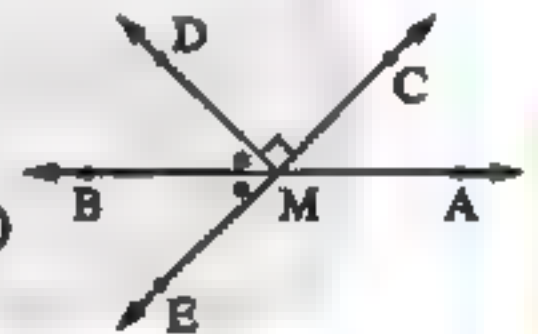
[b] Draw the line segment AB of length 8 cm. , then construct the axis of symmetry of $\overline{AB}$

(Don't remove the arcs)

4

[a] In the opposite figure :

Complete :

1 △ ABM ≡ △ ....

2 m (∠ B) = m (∠ ....)

3 m (∠ A) = m (∠ ....)

4 The perimeter of △ DMC = ... cm.

[b] In the opposite figure :

$\overrightarrow{AB} \parallel \overrightarrow{DC}$, m (∠A) = 120° , H ∈ $\overrightarrow{AC}$

, m (∠ ECD) = 38°

Find : m (∠ ACD) , m (∠ HCE) (showing the reason)

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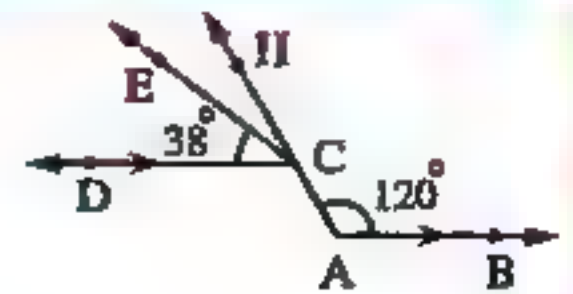
5 **In the opposite figure :**

$\overleftrightarrow{OR}$ is the axis of symmetry of the shape NERAM , O ∈ $\overleftrightarrow{MN}$

Complete : ① Quad AMOR ≡ Quad ················

② m (∠ NOR) = m (∠ ················)

③ m (∠ AMO) = m (∠ ················)

④ m (∠ ORA) = m (∠ ················) = ············°

⑤ m (∠ NER) = m (∠ ················) = ············°

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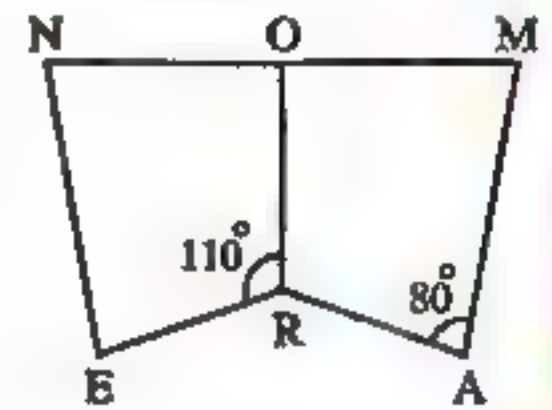
7 **Alexandria Governorate**

Borg El-Arab Educational Zone
Al-Safwa Integrated Schools

Answer the following questions : (Calculator is allowed)

1 **Complete each of the following :**

① The complement of the angle of measure 55° is an angle of measure ················°

② The sum of measures of the accumulative angles at a point equals ················°

③ If m (∠ B) = 160° , then m (reflex ∠ B) = ················°

④ The perpendicular bisector of a line segment is called ················

⑤ The number of triangles in the opposite figure is ················

2 **Choose the correct answer :**

① If $L_1 \parallel L_2$ and $L_2 \perp L_3$, then ················

(a) $L_1 \perp L_2$ (b) $L_3 \parallel L_2$ (c) $L_1 \perp L_3$ (d) $L_3 \parallel L_1$

② If △ ABC ≡ △ XYZ and m (∠ A) + m (∠ B) = 110° , then m (∠ Z) = ················°

(a) 50   (b) 60   (c) 70   (d) 80

③ If the ratio between the measures of two supplementary angles is 5 : 13
, then the measure of the smaller angle is ················°

(a) 50   (b) 130   (c) 150   (d) 180°

④ The type of the angle of measure 89° 60́ is ················

(a) acute.   (b) obtuse.   (c) right.   (d) reflex.

5 The two diagonals are perpendicular and equal in length in the ··············

    (a) rectangle.   (b) rhombus.   (c) square.   (d) parallelogram.

6 If $\triangle ABC \equiv \triangle LMN$, then $\overline{AC}$ ·············· $\overline{LN}$

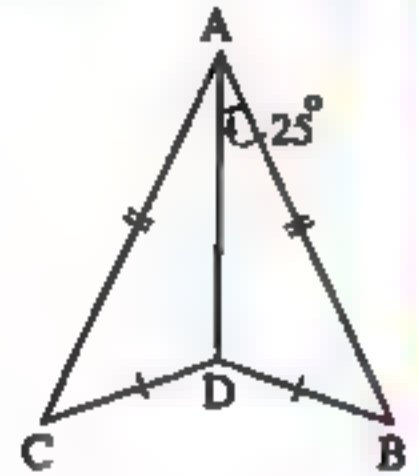   (a) =   (b) ≡   (c) <   (d) >

3 **[a]** In the opposite figure :

    $AB = AC$, $BD = CD$

    , $m (\angle BAD) = 25°$

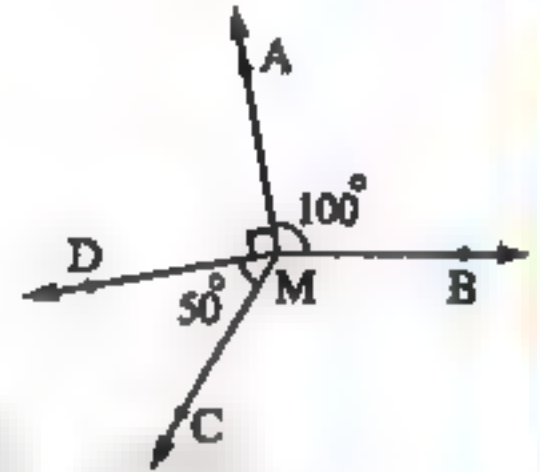   Is $\triangle ADC \equiv \triangle ADB$? Why ?

    Find : $m (\angle CAB)$

[b] In the opposite figure :

    $m (\angle BMA) = 100°$

    , $m (\angle AMD) = 90°$

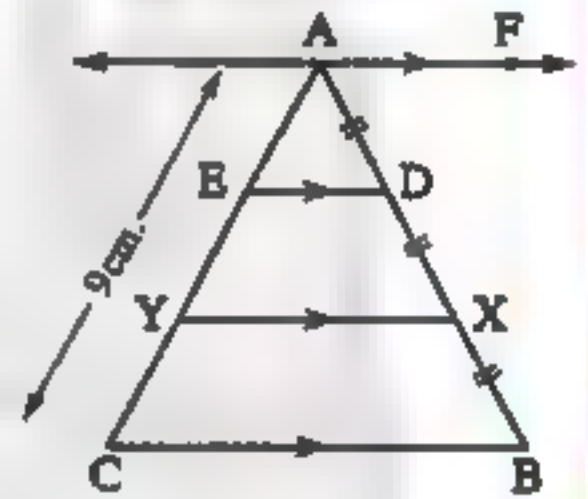   , $m (\angle DMC) = 50°$

    Find with steps : $m (\angle BMC)$

4 **[a]** In the opposite figure :

    $\overleftrightarrow{AF} /\!/ \overline{ED} /\!/ \overline{YX} /\!/ \overleftrightarrow{CB}$

    , $AD = DX = XB$, $AC = 9$ cm.

    Find : The length of $\overline{AY}$ (Give reason)

[b] Draw $\angle ABC$ of measure 100° and bisect it.

5 **[a]** In the opposite figure :

    $\overrightarrow{ZX} /\!/ \overline{LM}$

    , $\overline{LM} /\!/ \overrightarrow{NY}$

    , $m (\angle N) = 110°$

    , $m (\angle Z) = 60°$

    Find : **1** $m (\angle L)$ **2** $m (\angle M)$
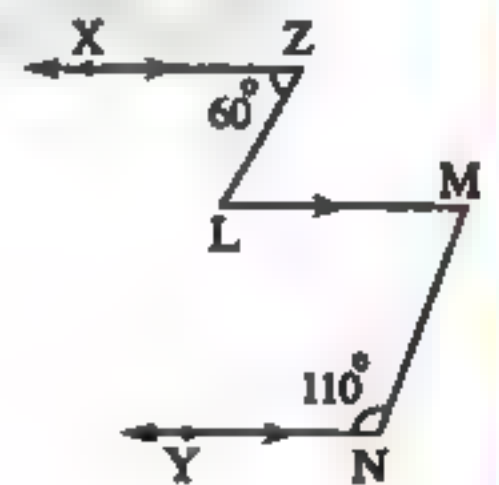
[b] In the opposite figure :

    $\overrightarrow{BD}$ bisects $\angle ABC$

    , $m (\angle DBC) = 35°$

    , $m (\angle BDC) = 120°$

    Find : $m (\angle A)$
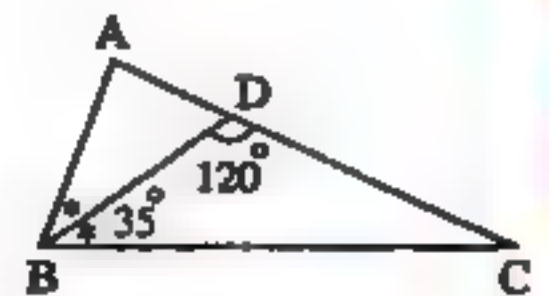
⑧ El-Kalyoubia Governorate   Directorate of Education
Mathematics Supervision

Answer the following questions :

① Choose the correct answer :

1 If △ ABC ≡ △ XYZ , then AC = ··············

(a) XY   (b) XZ   (c) YZ   (d) AB

2 If m (∠ B) = 105° , then m (reflex ∠ B) = ··············

(a) 255°   (b) 75°   (c) 105°   (d) 50°

3 If $\overline{AB} \equiv \overline{CD}$ and AB = 4 cm. , then AB + 2 CD = ·············· cm.

(a) 10   (b) 4   (c) 8   (d) 12

4 The measure of the supplementary of the angle whose measure is 30° equals ··············°

(a) 60   (b) 80   (c) 150   (d) 90

5 A cube is of volume 125 cm³ , then the area of its base = ·············· cm²

(a) 5   (b) 15   (c) 25   (d) 10

6 The measure of the right angle is ··············°

(a) 60   (b) 90   (c) 180   (d) 70

② Complete the following :

1 The two diagonals are equal in length in ·············· and ··············

2 The perpendicular bisector of a line segment is called ··············

3 The sum of the measures of the accumulative angles at a point equals ··············°

4 If △ ABC ≡ △ XYZ , m (∠ A) + m (∠ B) = 100° , then m (∠ Z) = ··············°

5 If two straight lines are perpendicular to a third , then the two straight lines are ··············

③ [a] In the opposite figure :

$\overrightarrow{DE}$ // $\overrightarrow{AC}$, m (∠ A) = 110° , m (∠ D) = 70°

Complete the following :

1 m (∠ C) = ·············· because ··············

2 Is $\overrightarrow{AB}$ // $\overrightarrow{CD}$? (··············) because ··············
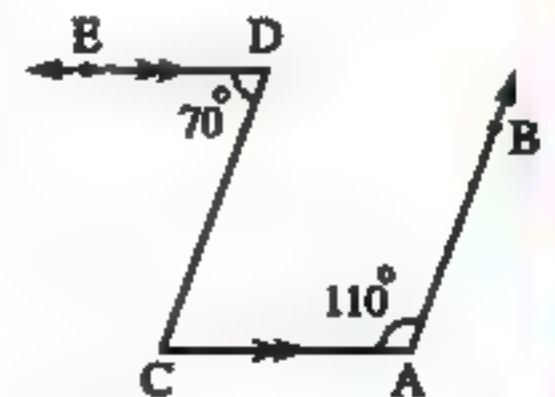
[b] Using the geometric instruments , draw ∠ ABC where m (∠ B) = 120°
, then draw $\overrightarrow{BD}$ to bisect the angle.   (Don't remove the arcs)
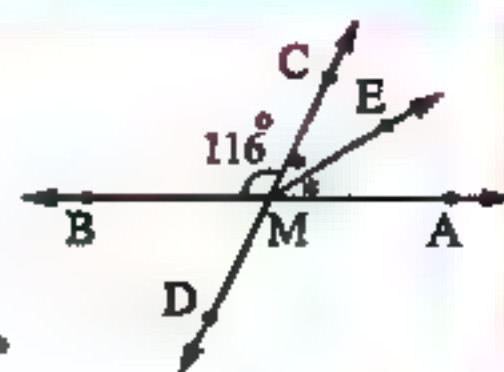
4 **[a]** In the opposite figure :

$\overrightarrow{AB} \cap \overrightarrow{CD} = \{M\}$, $\overrightarrow{ME}$ bisects $\angle AMC$, $m(\angle BMC) = 116°$

Complete the following :

① $m(\angle AMC) = $ ....°   ② $m(\angle AMD) = $ ....°
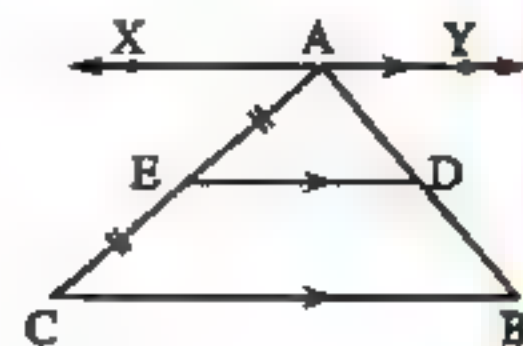
③ $m(\angle AME) = $ ....°

[b] In the opposite figure :

$\overleftrightarrow{XY} \parallel \overline{ED} \parallel \overline{BC}$, $AE = EC$

Complete the following :

① $AD = $ ....   ② $AD : AB = $ .... : ....

---

5 **[a]** From the opposite figure complete the following :

① $\triangle ABM \equiv \triangle $ ....

② $CD = $ .... cm.

③ $m(\angle B) = m(\angle $ .... $)$
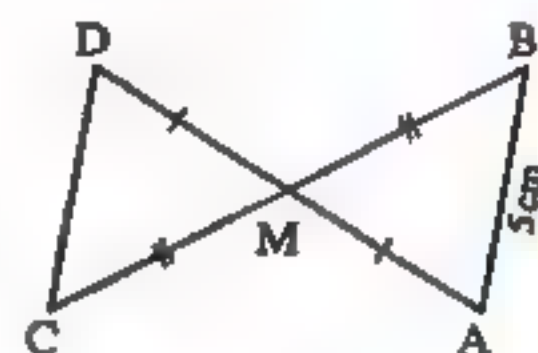
[b] Mention two cases of congruency of two triangles.

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9 **El-Sharkia Governorate**   West Zagazig Zone
Zagazig English Lang. Sch. for Girls

Answer the following questions :

1 Choose the correct answer :

① If $\angle X$ complements $\angle Y$ and $\angle X = \angle Y$, then $m(\angle X) = $ ....°

   (a) 45   (b) 90   (c) 20   (d) 180

② A square is of perimeter 20 cm. , then its area = ... cm².

   (a) 4   (b) 5   (c) 25   (d) 400

③ The two diagonals are equal in length in the ....

   (a) rhombus.   (b) parallelogram.   (c) trapezium.   (d) rectangle.

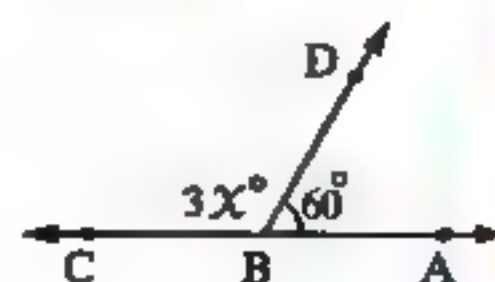④ In the opposite figure :

$B \in \overleftrightarrow{AC}$, then $x = $ ....

   (a) 30   (b) 120

   (c) 40   (d) 150

⑤ If $m(\angle A) = 110°$, then $m(\text{reflex } \angle A) = $ ....

   (a) 70°   (b) 360°   (c) 250°   (d) 150°

8 In the opposite figure :

· If $\overrightarrow{AF}$ // $\overline{ED}$ // $\overline{CB}$, AE = EC , then AD : AB = ...

(a) 2 : 1

(b) 3 : 2

(c) 1 : 3

(d) 1 : 2
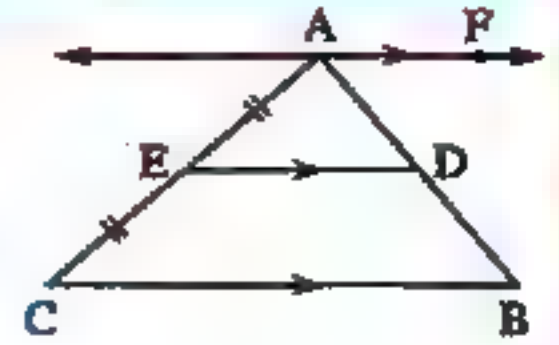
2 Complete each of the following :

1 If △ ABC ≡ △ XYZ , m (∠ A) + m (∠ B) = 120° , then m (∠ Z) = ...°

2 If a straight line intersects two parallel lines , then each two corresponding angles are ....

3 If △ ABC ≡ △ XYZ , then AC = ...

4 Two right-angled triangles are congruent if ....

5 If two straight lines intersect , then the measures of each two vertically opposite angles are ....

3 [a] In the opposite figure :

$\overrightarrow{BD}$ bisects ∠ ABC , m (∠ DBC) = 35°

, m (∠ BDC) = 120°

Find : m (∠ C) , m (∠ ABC) and m (∠ A)
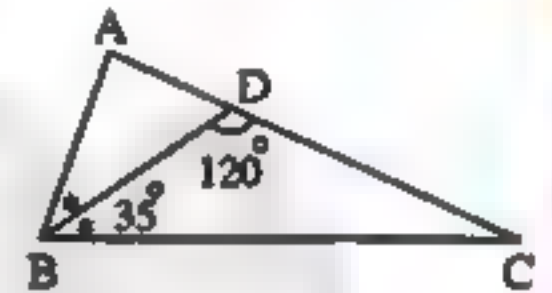
[b] In the opposite figure :

AC = AB , DC = DB

, m (∠ CAD) = 30°

1 Prove that : △ ABD ≡ △ ACD

2 Find : m (∠ CAB)
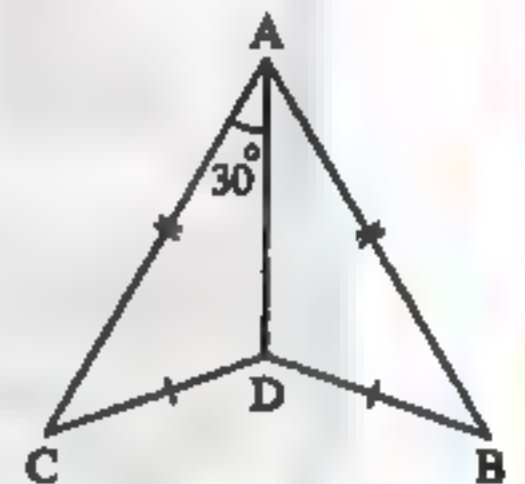
4 [a] In the opposite figure :

$\overrightarrow{DF}$ // $\overline{AC}$, m (∠ A) = 100°

, $\overrightarrow{DE}$ bisects ∠ FDC , m (∠ FDE) = 40°

1 Find : m (∠ FDC) and m (∠ C)

2 Prove that : $\overline{CD}$ // $\overline{AB}$
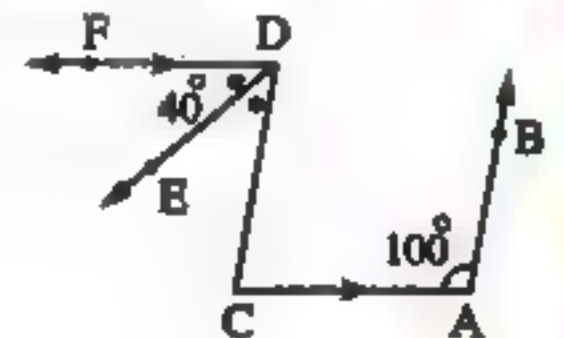
[b] In the opposite figure :

The polygon ABCF ≡ the polygon EDCF

, m (∠ EFC) = 110° , BC = 5 cm.

Find : **1** m (∠ AFC) , m (∠ AFE) and m (∠ FCB)
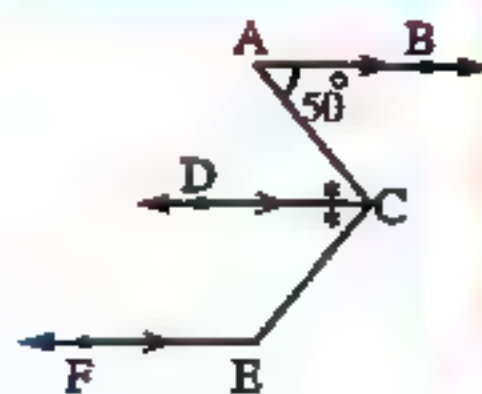
2 The length of $\overline{BD}$
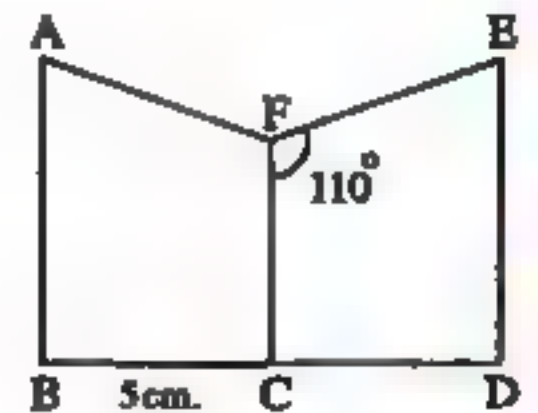
5 **[a]** In the opposite figure :

$\overrightarrow{AB}$ // $\overrightarrow{CD}$ // $\overrightarrow{EF}$, $\overrightarrow{CD}$ bisects $\angle$ ACE

, m ($\angle$ A) = 50°

Find : m ($\angle$ ACE) and m ($\angle$ E)

[b] Using the ruler and compasses , draw the triangle ABC in which BC = 6 cm.
, AB = AC = 5 cm. Draw $\overline{AD} \perp \overline{BC}$ where $\overline{AD} \cap \overline{BC} = \{D\}$

(Don't remove the arcs)

10 **El-Monofia Governorate**   Kweesne Educational Directorate
Mathematics Supervision

Answer the following questions :   (Calculator is permitted)

1 **Choose the correct answer :**

1 The sum of the measures of the accumulative angles at a point equlas ·············°

(a) 90   (b) 180   (c) 270   (d) 360

2 If two triangles ABC and XYZ are congruent , then ·············

(a) BC = XZ   (b) YX = CA   (c) ZY = CB   (d) AB = YZ

3 If a straight line intersects two parallel straight lines , then each two interior angles in the same side of the transversal are ·············

(a) equal.   (b) supplementary.   (c) corresponding.   (d) complementary.

4 If $\triangle$ ABC $\equiv$ $\triangle$ XYZ , m ($\angle$ A) + m ($\angle$ B) = 115° , then m ($\angle$ Z) = ·············°

(a) 115   (b) 65   (c) 15   (d) 70

5 If m ($\angle$ A) = 90° , then m (reflex $\angle$ A) = ·············

(a) 270   (b) 180   (c) 90   (d) 360

6 If $\angle$ A supplements $\angle$ B and $\angle$ A $\equiv$ $\angle$ B , then m ($\angle$ B) = ·············°

(a) 45   (b) 90   (c) 120   (d) 60

2 **Complete each of the following :**

1 The angle whose measure is 40° complements an angle of measure ·············°

2 Two triangles are congruent if two sides and the ············· in one of them are congruent to their corresponding parts of the other.

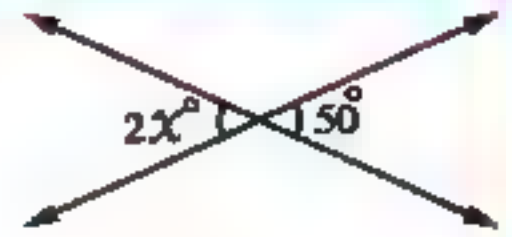**3** If two straight lines are perpendicular to a third line , then these two straight lines are ·············

4 If L_1 // L_2 and $L_1 \perp L_3$, then L_3 ············· L_2

5 In the opposite figure :

$X =$ ....

$2X°$ ⤫ 50

3 **[a]** In the opposite figure :

m ($\angle$ AMB) = 50°

, m ($\angle$ BMC) = 60°

, m ($\angle$ DME) = 40° and $\overrightarrow{MA} \perp \overrightarrow{ME}$

Find : m ($\angle$ DMC)
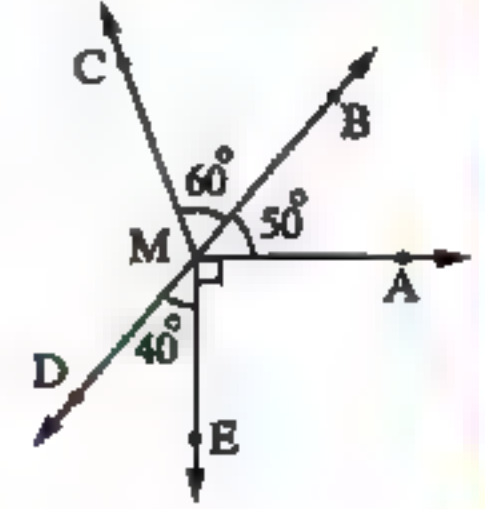
[b] In the opposite figure :

CB = FE , AC = EC

, m ($\angle$ B) = m ($\angle$ F) = 90°

, m ($\angle$ E) = 70° and FC = 80 cm.

Find : m ($\angle$ A) and the length of $\overline{AB}$
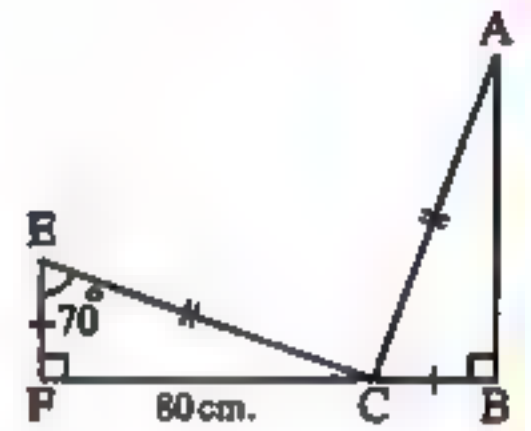
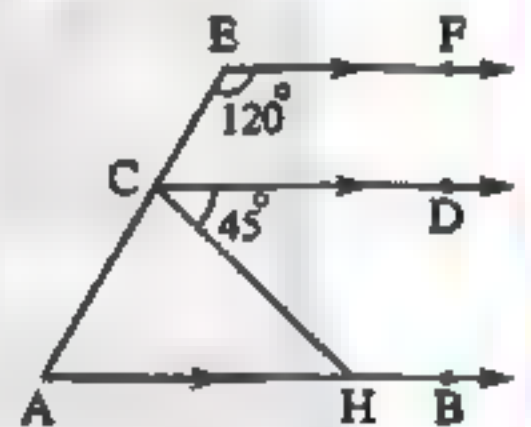**4** **[a]** Draw the angle ABC where m ($\angle$ B) = 130° , using the ruler and the compasses bisect $\angle$ B

[b] In the opposite figure :

$\overrightarrow{EF}$ // $\overrightarrow{CD}$ // $\overrightarrow{AB}$

, m ($\angle$ CEF) = 120°

, m ($\angle$ HCD) = 45°

Find : The measures of the angles of $\triangle$ AHC

5 **[a]** In the opposite figure :

m ($\angle$ ZXY) = m ($\angle$ ZLY) = 90°

, XY = LY and ZX = 5 cm.

1 Is $\triangle$ YXZ $\equiv$ $\triangle$ YLZ ? Why ?

2 Find : The length of $\overline{ZL}$
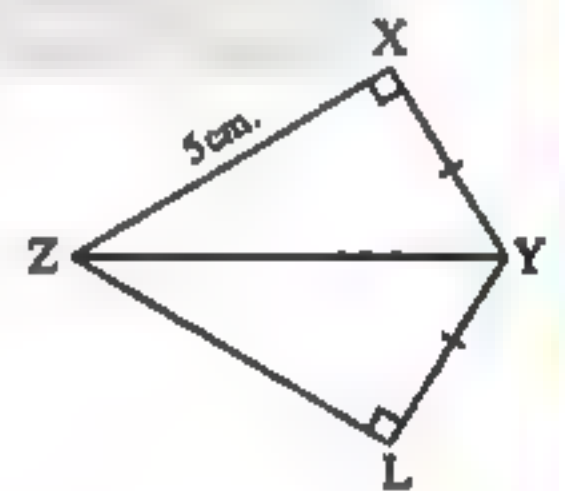
[b] In the opposite figure :

$\overrightarrow{AD}$ // $\overrightarrow{BE}$

, m ($\angle$ F) = 80°

, m ($\angle$ A) = 110° and m ($\angle$ ABF) = 150°

Is $\overrightarrow{BE}$ // $\overrightarrow{FC}$? (Give reason)
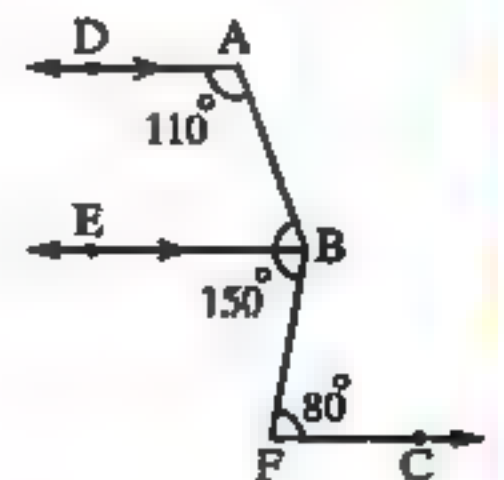
11 El-Dakahlia Governorate | Talkha Educational Directorate A.M.D.L School

Answer the following questions :

1 **Choose the correct answer :**

1 The sum of measures of the accumulative angles at a point is ············

(a) 180°   (b) 90°   (c) 360°   (d) 60°

2 The acute angle supplements ············ angle.

(a) an acute   (b) an obtuse   (c) a right   (d) a reflex

3 The two straight lines parallel to a third straight line are ············

(a) intersecting.   (b) congruent.   (c) parallel.   (d) perpendicular.

4 If $\triangle ABC \equiv \triangle DEF$, $m(\angle A) + m(\angle B) = 110°$, then $m(\angle F) = $ ············

(a) 180°   (b) 110°   (c) 80°   (d) 70°

5 In the opposite figure :

$X = $ ············

(a) 80°   (b) 100°   (c) 20°   (d) 40°

6 $\overrightarrow{AB} \cup \overrightarrow{AC} = $ ············

(a) $\overrightarrow{AB}$ (b) $\angle ABC$ (c) $\angle BAC$ (d) $\varnothing$

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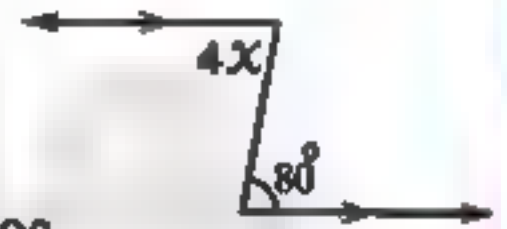
2 **Complete the following :**

1 The complement of an angle of measure 75° is an angle of measure ············

2 If $m(\angle A) = 160°$, then $m(\text{reflex } \angle A) = $ ············°

3 If two straight lines intersect , then the measures of each two vertically opposite angles are ············

4 If $\overrightarrow{AB} \equiv \overrightarrow{XY}$, then $AB - XY = $ ············

5 If $\angle A$ supplements $\angle B$ and $\angle A \equiv \angle B$, then $m(\angle B) = $ ············°

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3 **[a]** State any two cases of congruency of two triangles.

[b] From the opposite figure :

1 Prove that : $\triangle ABC \equiv \triangle ADC$

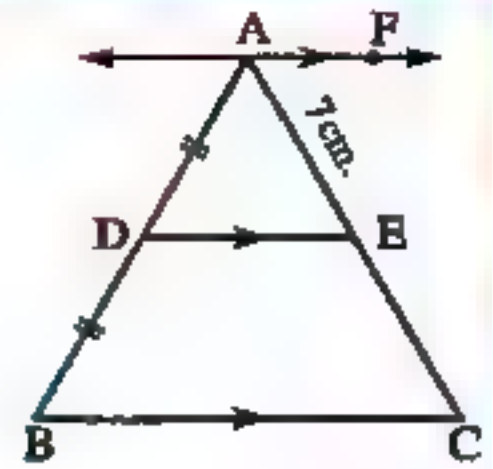2 Find : $m(\angle BAC)$
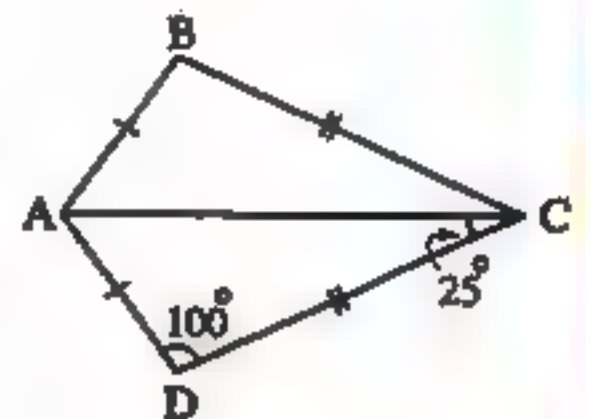
4 **[a]** In the opposite figure :

$\overleftrightarrow{AF} \parallel \overleftrightarrow{DE} \parallel \overleftrightarrow{BC}$

, D is the midpoint of $\overline{AB}$

, AE = 7 cm.

Find : AC

[b] Using the geometric instruments , draw △ ABC in which BC = 6 cm. , AB = AC = 5 cm.

, then draw $\overline{AD} \perp \overline{BC}$ where $\overline{AD} \cap \overline{BC} = \{D\}$, **Find by measuring : AD**
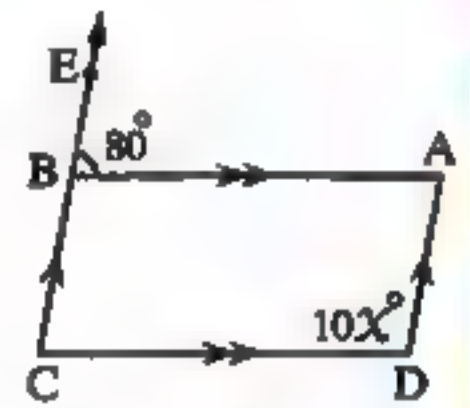
(Don't remove the arcs)

5 **[a]** In the opposite figure :

$\overleftrightarrow{AB} \parallel \overleftrightarrow{DC}$, $\overleftrightarrow{BC} \parallel \overleftrightarrow{AD}$

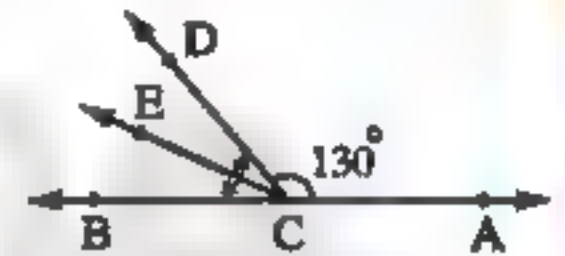, $E \in \overleftrightarrow{BC}$, m (∠ D) = 10 $x°$

, m (∠ ABE) = 80°

Find : The value of x

[b] In the opposite figure :

$C \in \overleftrightarrow{AB}$, m (∠ ACD) = 130° , $\overrightarrow{CE}$ bisects ∠ BCD

Find : m (∠ DCE)

Answer the following questions :

1 **Choose the correct answer :**

1 The angle of measure 60° supplements an angle of measure ·············°

(a) 40   (b) 30   (c) 120   (d) 90

2 If two straight lines are perpendicular to a third , then the two straight lines are ············

(a) perpendicular.   (b) intersecting.   (c) parallel.   (d) congruent.

3 If △ ABC ≡ △ XYZ , m (∠ A) + m (∠ B) = 140° , then m (∠ Z) = ·············°

(a) 60   (b) 40   (c) 80   (d) 140

4 The number of axes of symmetry of the square equals ············

(a) 1   (b) 2   (c) 3   (d) 4

5 If a straight line cuts two parallel lines , then each two corresponding angles are ············

(a) equal in measure.   (b) complementary.

(c) supplementary.   (d) right.

6 If m $(\angle A) = 100°$, then m (reflex $\angle A$) = ·············°

  (a) 80   (b) 260   (c) 50   (d) 100

2 **Complete the following :**

1 If two adjacent angles are complementary , then their outer sides are ·············

2 If $\triangle ABC \equiv \triangle XYZ$, then AC = ·············

3 If $\angle C \equiv \angle D$, m $(\angle C) = 90°$, then m $(\angle D) = $ ·············°

4 The measure of the straight angle equals ·············°

5 The perimeter of a square is 40 cm. , then its side length is ············· cm.

3 **[a] In the opposite figure :**

    AC = AB

    , DC = DB

    Is $\triangle ADB \equiv \triangle ADC$? Why ?

[b] In the opposite figure :

    $\overrightarrow{AD} \, // \, \overrightarrow{BC}$

    , m $(\angle EAD) = 60°$

    , m $(\angle CAD) = 50°$

    Find : 1 m $(\angle C)$ 2 m $(\angle B)$ 3 m $(\angle BAC)$
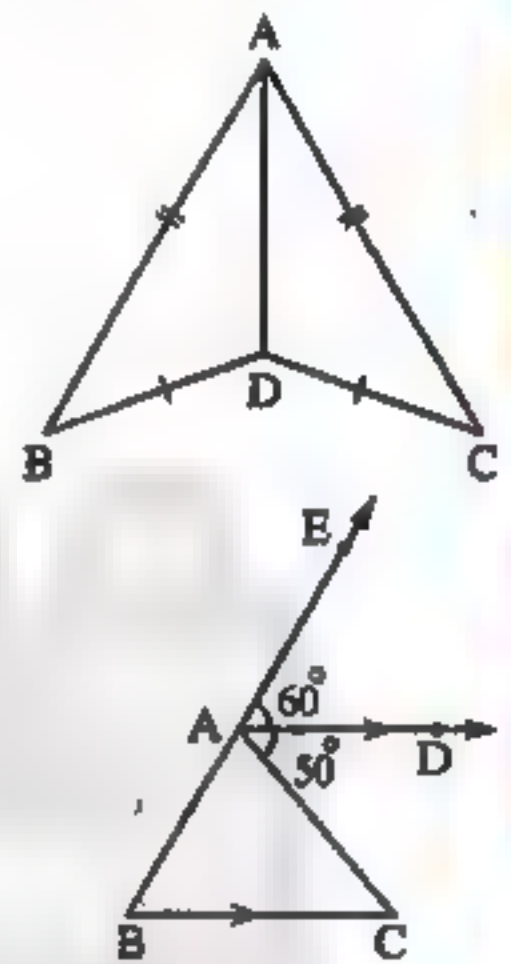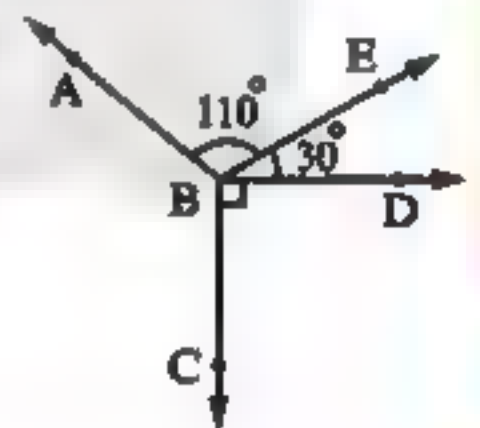
4 **[a] In the opposite figure :**

    m $(\angle DBE) = 30°$

    , $\angle CBD$ is a right angle

    , m $(\angle EBA) = 110°$

    Find : m $(\angle ABC)$

[b] Draw $\overrightarrow{AB}$ of length 6 cm. and bisect it.   (Don't remove the arcs)
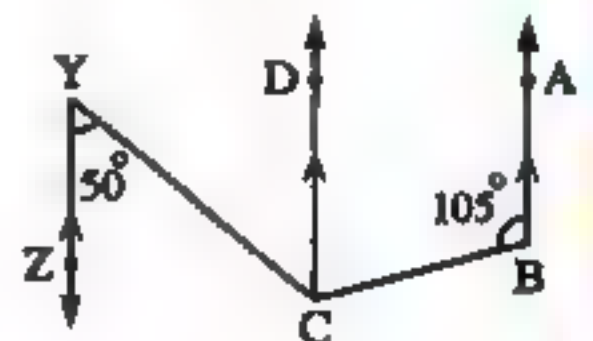
5 **[a] In the opposite figure :**

    $\overrightarrow{BA} \, // \, \overrightarrow{CD} \, // \, \overrightarrow{YZ}$

    , m $(\angle ABC) = 105°$

    , m $(\angle ZYC) = 50°$

    Find : 1 m $(\angle YCD)$ 2 m $(\angle BCD)$ 3 m $(\angle BCY)$
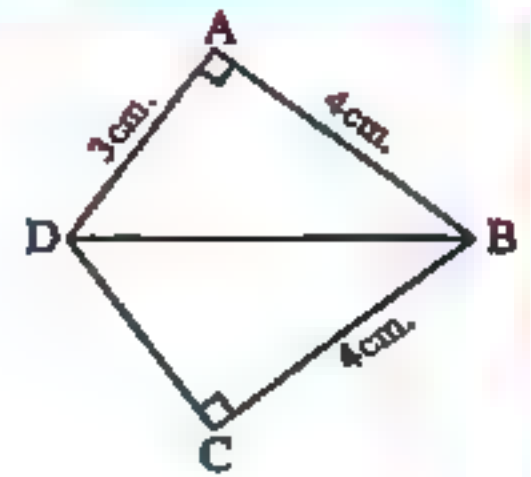
[b] In the opposite figure :

AB = BC = 4 cm. , AD = 3 cm.

, m (∠ A) = m (∠ C) = 90°

1️⃣ Is △ ABD ≡ △ CBD ? Why ?

2️⃣ Find : The length of $\overline{CD}$

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(13) Damietta Governorate — Damietta Inspection of Mathematics Official Language Schools

Answer the following questions :

1 Choose the correct answer :

1️⃣ If ∠ X supplements ∠ Y and ∠ X ≡ ∠ Y , then m (∠ X) = ············°

(a) 45   (b) 90   (c) 180   (d) 360

2️⃣ If △ ABC ≡ △ XYZ , then ············

(a) AB = YZ   (b) BC = XZ   (c) YX = CA   (d) ZY = CB

3️⃣ The centimeter cube is a unit for measuring the ············

(a) perimeter.   (b) area.   (c) volume.   (d) length.

4️⃣ Two straight lines are perpendicular to a third line , then the two straight lines are ············

(a) perpendicular.   (b) parallel.   (c) congruent.   (d) intersecting.

5️⃣ $\overrightarrow{XY}$ ············ $\overrightarrow{XY}$

(a) ∉   (b) ∈   (c) ⊂   (d) ⊄

6️⃣ In the opposite figure :

If $\overrightarrow{AC} \cap \overrightarrow{MB} = \{M\}$, then the value of X = ············°

(a) 20   (b) 30   (c) 40   (d) 60

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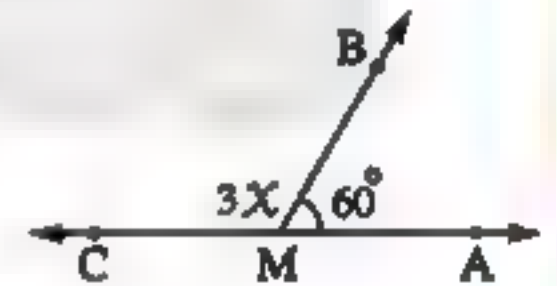
2 Complete each of the following :

1️⃣ If m (∠ A) = 120° , then m (reflex ∠ A) = ············°

2️⃣ If the perimeter of a square is 20 cm. , then its area equals ············ cm².

3️⃣ The number of edges of the cuboid is ············

4️⃣ If a straight line cuts two parallel straight lines , then each two alternate angles are ············

5️⃣ If $\overline{AB} \equiv \overline{CD}$, then AB − CD = ············

3 [a] In the opposite figure :
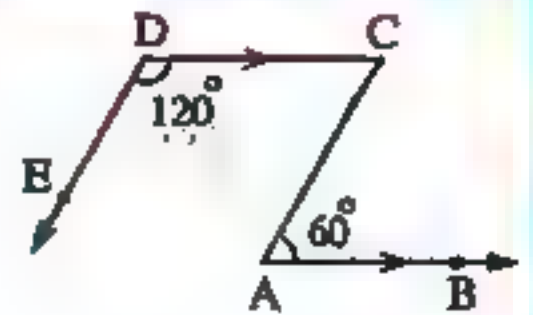
$\overrightarrow{AB} \parallel \overrightarrow{DC}$

, m ($\angle$ A) = 60°

, m ($\angle$ D) = 120°

[1] Find : m ($\angle$ C)   [2] Is $\overrightarrow{AC} \parallel \overrightarrow{DE}$? Why ? (Write the steps)

[b] Draw $\angle$ ABC where m ($\angle$ B) = 115° Using the ruler and compasses bisect $\angle$ B by $\overrightarrow{BD}$

(Don't remove the arcs)

4 [a] In the opposite figure :

$\overleftrightarrow{AF} \parallel \overrightarrow{DE} \parallel \overleftrightarrow{XY} \parallel \overline{BC}$

, AD = DX = XB

, AY = 6 cm.

Find : The length of $\overline{AC}$ (Give the reason)

[b] In the opposite figure :

m ($\angle$ BAD) = m ($\angle$ BCD) = 90°

, AB = CB = 5 cm. , AD = 3 cm.

Mention the conditions for $\triangle$ ABD , $\triangle$ CBD to be congruent

, then find : The length of $\overline{CD}$
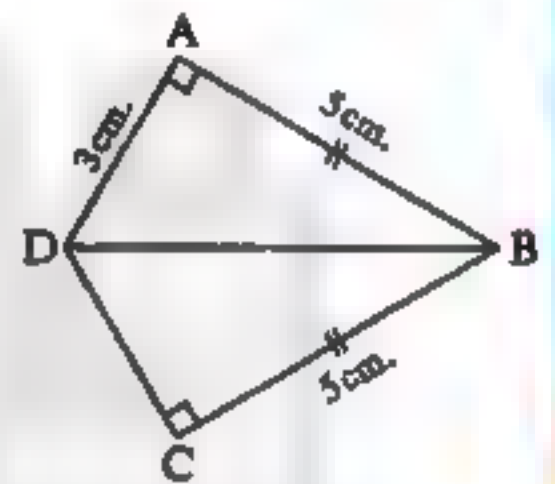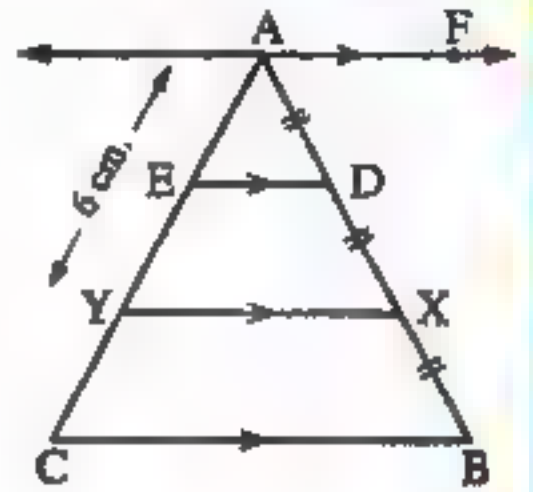
5 [a] In the opposite figure :

$\overrightarrow{AC} \cap \overrightarrow{DE} = \{B\}$

, m ($\angle$ ABD) = 50°

, m ($\angle$ ABF) = 90°

Find showing the steps :

[1] m ($\angle$ DBC)   [2] m ($\angle$ CBE)   [3] m ($\angle$ FBE)

[b] In the opposite figure :
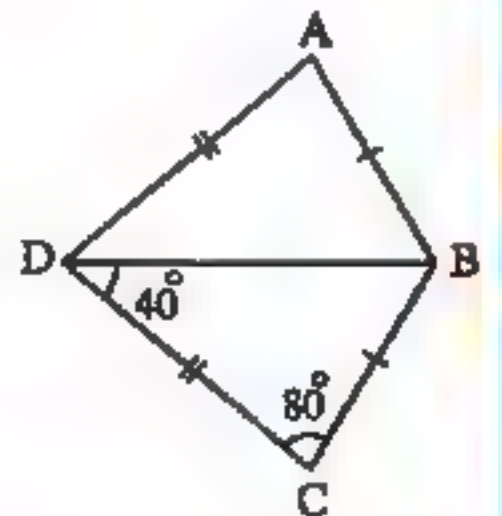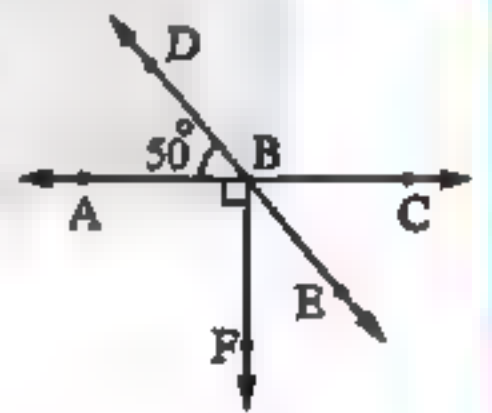
AB = BC , AD = CD

, m ($\angle$ C) = 80°

, m ($\angle$ BDC) = 40°

Is $\triangle$ CBD $\equiv$ $\triangle$ ABD ? Why ?

and find : m ($\angle$ ABD)

(14) **Souhag Governorate**   **Maths Supervision**

Answer the following questions :

1 **Choose the correct answer :**

1 If ∠ X ≡ ∠ Y and ∠ X , ∠ Y are supplementary angles , then m (∠ X) = ············

     (a) 45°   (b) 90°   (c) 135°   (d) 180°

2 If two straight lines are perpendicular to a third line , then the two straight lines are ············

     (a) perpendicular.   (b) parallel.   (c) congruent.   (d) intersecting.

3 If Δ XYZ ≡ Δ ABC and m (∠ A) + m (∠ B) = 100° , then m (∠ Z) = ············

     (a) 50°   (b) 80°   (c) 100°   (d) 360°

4 The angle whose measure is more than 90° and less than 180° is ············

     (a) obtuse.   (b) acute.   (c) right.   (d) straight.

5 If m (∠ X) = 2 m (∠ Y) , ∠ X and ∠ Y are two complementary angles
, then m (∠ Y) = ············

     (a) 90°   (b) 45°   (c) 30°   (d) 15°

6 The sum of the measures of the accumulative angles at a point is ············

     (a) 45°   (b) 90°   (c) 180°   (d) 360°

2 **Complete each of the following :**

1 If two straight lines intersects , then each two vertically opposite angles are ············

2 If Δ ABC ≡ Δ XYZ , then XZ = ············

3 If ∠ A supplements ∠ B , m (∠ A) = 100° , then m (reflex ∠ B) = ············°

4 In the opposite figure :

     A ∈ $\overleftrightarrow{CB}$

     , then m (∠ DAE) = ············°

5 In the opposite figure :
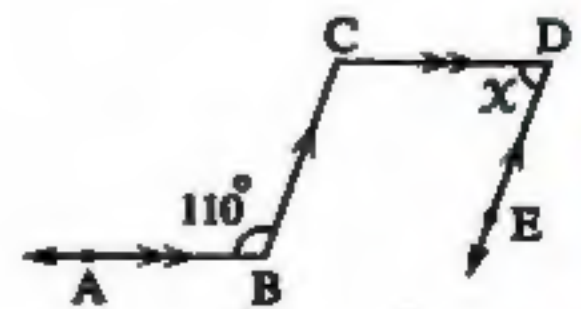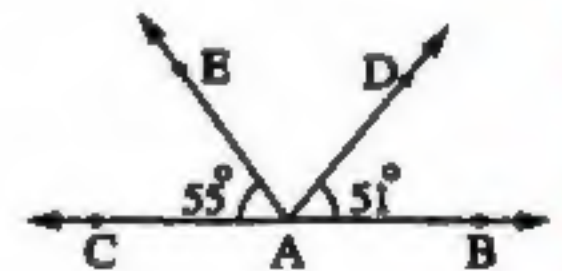
     $\overrightarrow{CD}$ // $\overrightarrow{BA}$

     , $\overrightarrow{DE}$ // $\overrightarrow{CB}$

     , then x = ············°

3 [a] In the opposite figure :

AB = AC

, BD = DC

, m (∠ CAD) = 30°
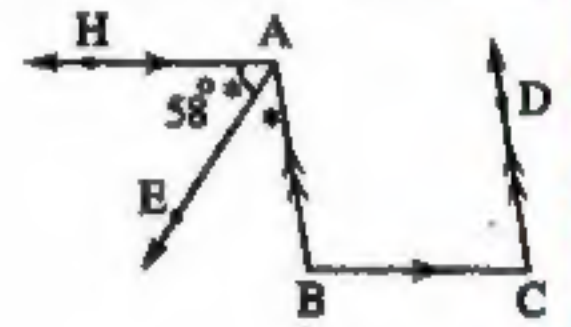
1 **Prove that :** Δ ABD ≡ Δ ACD

2 **Find :** m (∠ CAB)
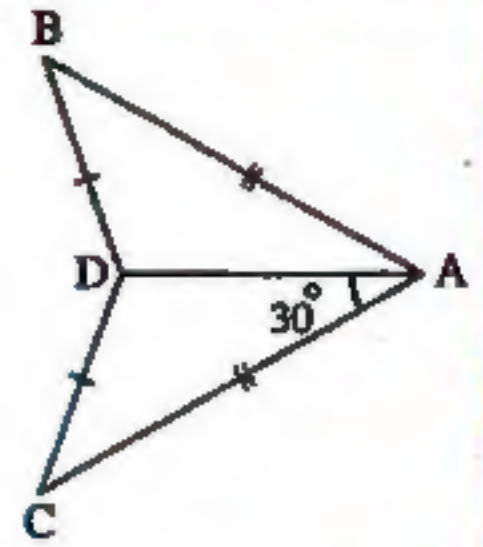
[b] Using the ruler and the compasses , draw the angle ABC where m (∠ ABC) = 110° and draw $\overrightarrow{BD}$ to bisect the angle. (Don't remove the arcs)

4 [a] In the opposite figure :

$\overrightarrow{CD}$ // $\overrightarrow{BA}$, $\overrightarrow{CB}$ // $\overrightarrow{AH}$

, $\overrightarrow{AE}$ bisects ∠ BAH , m (∠ EAH) = 58°

Find : m (∠ C)

[b] In the opposite figure :
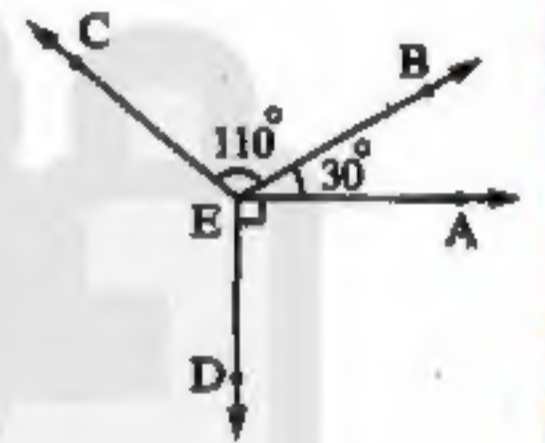
m (∠ AEB) = 30° , m (∠ BEC) = 110°

, m (∠ AED) = 90°

Find : m (∠ DEC)

5 [a] In the opposite figure :

$\overrightarrow{AF}$ // $\overline{ED}$ // $\overline{YX}$ // $\overline{CB}$

, AD = DX = XB

, AC = 9 cm.

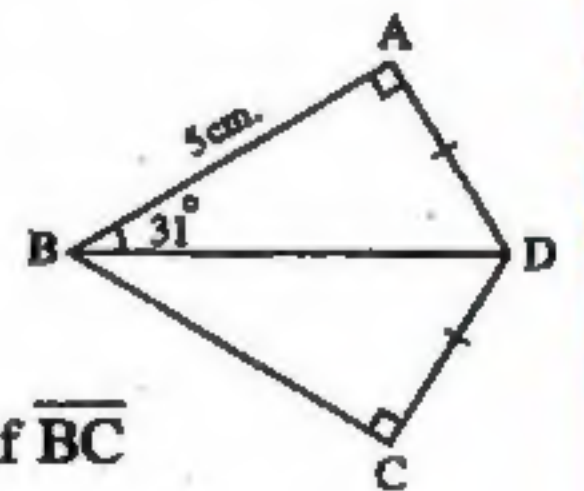**Find :** The length of $\overline{AY}$
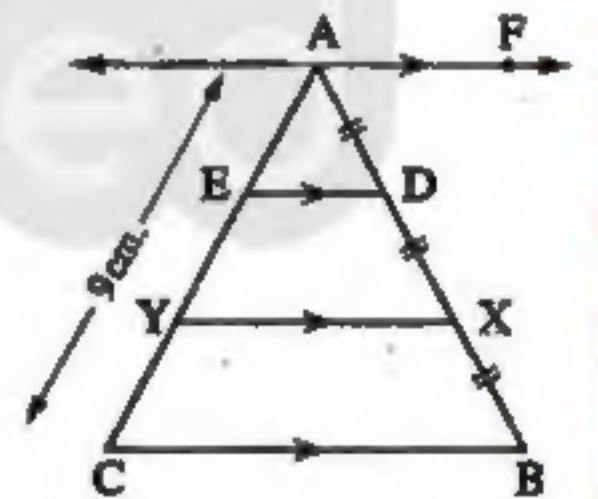
[b] In the opposite figure :

m (∠ A) = m (∠ C) = 90° , m (∠ ABD) = 31°

, AB = 5 cm.

, AD = CD

1 **Prove that :** Δ ABD ≡ Δ CBD   2 **Find :** The length of $\overline{BC}$

3 **Find :** m (∠ CBD)

15 Luxor Governorate

Luxor Directorate
El-Salam Language School

Answer the following questions :

1 **Choose the correct answer :**

1 A square is of side length 7 cm. , then its perimeter = ·············· cm.

(a) 14   (b) 21   (c) 24   (d) 28

2 The circumference of the circle = ··············

(a) 2π (b) $2\pi r$ (c) πr (d) πr^2

3 The sum of measures of the accumulative angles at a point equals ··············°

(a) 360   (b) 180   (c) 603   (d) 150

4 If $L_1 // L_3$, $L_2 // L_3$, then ··············

(a) $L_1 // L_2$ (b) $L_1 \perp L_2$ (c) $L_2 \perp L_3$ (d) $L_1 \perp L_3$

5 The measure of the supplement of the angle whose measure is 30° equals ··············°

(a) 60   (b) 180   (c) 150   (d) 90

6 If $\angle X$ complements $\angle Y$ and $\angle X \equiv \angle Y$, then m ($\angle X$) = ··············°

(a) 45   (b) 90   (c) 180   (d) 360

2 **Complete :**

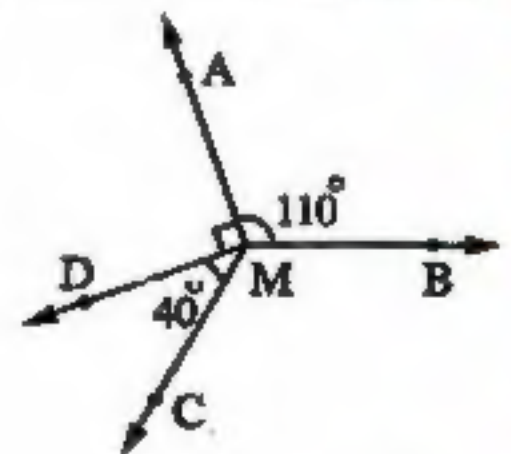**1** Two triangles are congruent if two sides and ·············· of one triangle are congruent to their corresponding parts of the other triangle.

2 If m ($\angle A$) = 105° , then m (reflex $\angle A$) = ··············°

3 If $\triangle ABC \equiv \triangle XYZ$, then $\overline{AC} \equiv$ ··············

4 If a straight line intersects two parallel lines , then each two corresponding angles are ··············

5 In $\triangle ABC$, if m ($\angle A$) = 50° , m ($\angle B$) = 40° , then m ($\angle C$) = ··············°

3 **[a] In the opposite figure :**

m ($\angle AMB$) = 110° , m ($\angle AMD$) = 90°

, m ($\angle DMC$) = 40°

Find : m ($\angle BMC$) (With steps)

[b] Using the geometric tools , draw ∠ ABC whose measure is 90°
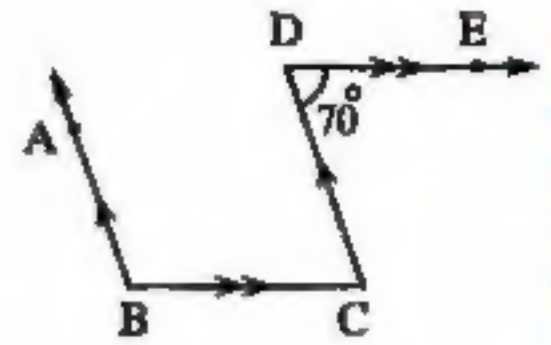, then draw $\overrightarrow{BF}$ to bisect the angle. (Don't remove the arcs)

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4 [a] In the opposite figure :

$\overrightarrow{DE} \parallel \overrightarrow{BC}$

, $\overrightarrow{DC} \parallel \overrightarrow{BA}$

, m (∠ D) = 70°

Find : m (∠ C) , m (∠ B) (Give reason)

[b] In the opposite figure :

The polygon ABCD ≡ the polygon AFHD

Complete :

1 AB = ... 2 BC = ...

3 m (∠ C) = m (∠ ....) 4 m (∠ F) = m (∠ ....)

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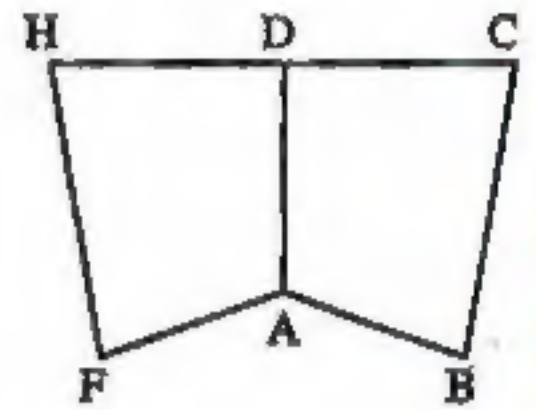
5 [a] In the opposite figure :

AB = BC

, AD = DC

, m (∠ C) = 80°
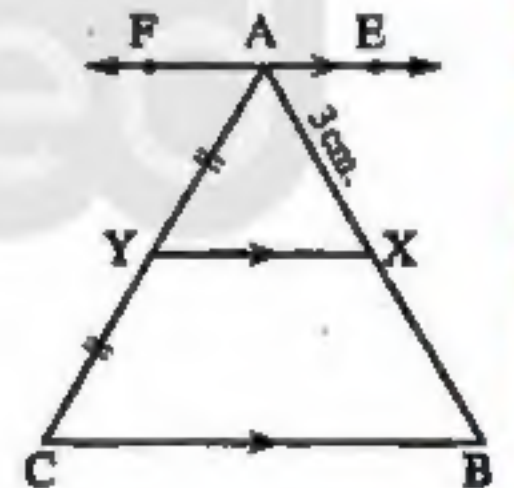
1 **Prove that :** Δ ABD ≡ Δ CBD

2 **Find :** m (∠ A)
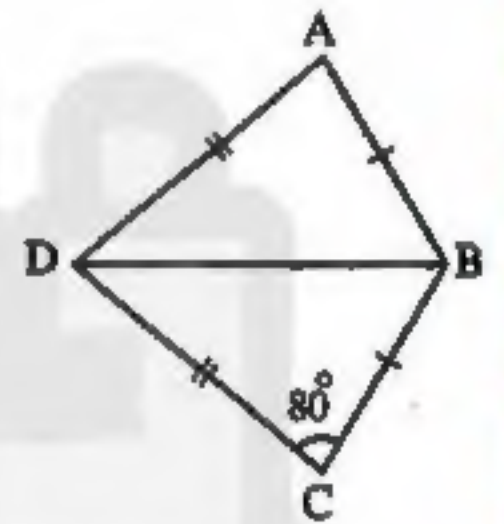
[b] In the opposite figure :

$\overleftrightarrow{AF} \parallel \overleftrightarrow{XY} \parallel \overleftrightarrow{BC}$

, AY = YC

, AX = 3 cm.

Find : The length of $\overline{AB}$ (Give reason)